

11/3

Venci 10/706,567

11/22/2004

=> fil reg

VIT (NARROW)

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STRUCTURE FILE UPDATES: 18 NOV 2004 HIGHEST RN 784112-11-4
DICTIONARY FILE UPDATES: 18 NOV 2004 HIGHEST RN 784112-11-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
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<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> fil hcap

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FILE COVERS 1907 - 20 Nov 2004 VOL 141 ISS 22
FILE LAST UPDATED: 18 Nov 2004 (20041118/ED)

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substance identification.

=> file stnguide

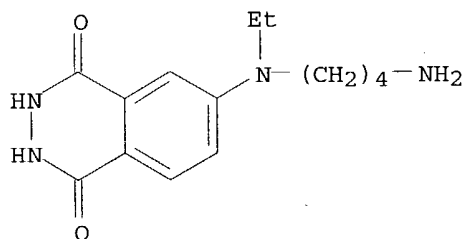
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Nov 12, 2004 (20041112/UP).

=> d ide 14

YOU HAVE REQUESTED DATA FROM FILE 'REGISTRY' - CONTINUE? (Y)/N:y

L4 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 66612-29-1 REGISTRY
CN 1,4-Phthalazinedione, 6-[(4-aminobutyl)ethylamino]-2,3-dihydro- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN ABEI
CN N-(4-Aminobutyl)-N-ethylisoluminol
FS 3D CONCORD
DR 96100-76-4
MF C14 H20 N4 O2
CI COM
LC STN Files: BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CHEMCATS, CSCHEM, EMBASE, MEDLINE, MSDS-OHS, PROMT, TOXCENTER, USPATFULL (*File contains numerically searchable property data)
DT.CA Caplus document type: Conference; Journal; Patent
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

112 REFERENCES IN FILE CA (1907 TO DATE)
15 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
112 REFERENCES IN FILE CAPLUS (1907 TO DATE)

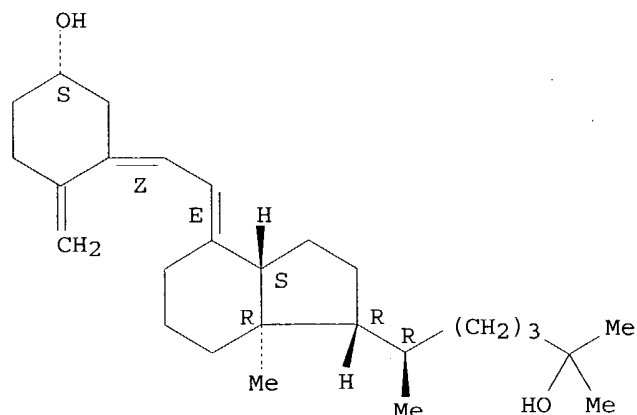
=> d ide 15

YOU HAVE REQUESTED DATA FROM FILE 'REGISTRY' - CONTINUE? (Y)/N:y

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN

RN 19356-17-3 REGISTRY
CN 9,10-Secocholesta-5,7,10(19)-triene-3,25-diol, (3 β ,5Z,7E) - (9CI) (CA
INDEX NAME)
OTHER CA INDEX NAMES:
CN 9,10-Secocholesta-5,7,10(19)-triene-3 β ,25-diol (8CI)
OTHER NAMES:
CN 25-HCC
CN 25-Hydroxycholecalciferol
CN 25-Hydroxyvitamin D
CN 25-Hydroxyvitamin D3
CN 5,6-cis-25-Hydroxyvitamin D3
CN Calcdiol
CN Calcifediol
CN Calderol
CN Cholecalciferol, 25-hydroxy-
CN Dedrogyl
CN Didrogyl
CN Hydroferol
CN Ro 8-8892
CN U 32070E
FS STEREOSEARCH
DR 25631-40-7
MF C27 H44 O2
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CIN,
CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA,
MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PROMT, PS, SPECINFO,
TOXCENTER, USAN, USPAT2, USPATFULL, VETU
(*File contains numerically searchable property data)
Other Sources: EINECS**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA Caplus document type: Conference; Dissertation; Journal; Patent; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);
PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or
reagent); USES (Uses)
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological
study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological
study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP
(Preparation); PROC (Process); PRP (Properties); RACT (Reactant or
reagent); USES (Uses)
RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical
study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU
(Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); USES
(Uses)

Absolute stereochemistry.
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2972 REFERENCES IN FILE CA (1907 TO DATE)
 42 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 2974 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> => d l4 rsd

YOU HAVE REQUESTED DATA FROM FILE 'REGISTRY' - CONTINUE? (Y)/N:y

L4 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN

Ring System Data

Elemental Analysis EA	Elemental Sequence ES	Size of the Rings SZ	Ring System Formula RF	Ring Identifier RID	RID Occurrence Count
C4N2-C6	N2C4-C6	6-6	C8N2	591.62.22	1

=>

=> fil lreg

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LREGISTRY IS A STATIC LEARNING FILE

=> fil reg

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STRUCTURE FILE UPDATES: 21 NOV 2004 HIGHEST RN 785750-23-4
DICTIONARY FILE UPDATES: 21 NOV 2004 HIGHEST RN 785750-23-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

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Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
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=> fil hcaplus

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FILE COVERS 1907 - 22 Nov 2004 VOL 141 ISS 22
FILE LAST UPDATED: 21 Nov 2004 (20041121/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> fil medlin

FILE LAST UPDATED: 20 NOV 2004 (20041120/UP). FILE COVERS 1950 TO DATE.

On February 29, 2004, the 2004 MeSH terms were loaded. See HELP RLOAD for details.

OLDMEDLINE now back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2004 vocabulary. See <http://www.nlm.nih.gov/mesh/> and http://www.nlm.nih.gov/pubs/techbull/nd03/nd03_mesh.html for a description of changes.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> fil biosis

FILE 'BIOSIS' ENTERED AT 12:29:58 ON 22 NOV 2004
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FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 17 November 2004 (20041117/ED)

FILE RELOADED: 19 October 2003.

=> fil pascal

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FILE LAST UPDATED: 22 NOV 2004 <20041122/UP>
FILE COVERS 1977 TO DATE.

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION IS AVAILABLE
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=> fil caba

FILE 'CABA' ENTERED AT 12:30:08 ON 22 NOV 2004
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FILE COVERS 1973 TO 8 Nov 2004 (20041108/ED)

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The CABA file was reloaded 7 December 2003. Enter HELP RLOAD for details.

=> fil jicst

FILE 'JICST-EPLUS' ENTERED AT 12:30:11 ON 22 NOV 2004
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FILE COVERS 1985 TO 15 NOV 2004 (20041115/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED
TERM (/CT) THESAURUS RELOAD.

=> fil embase

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FILE COVERS 1974 TO 19 Nov 2004 (20041119/ED)

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=> fil anabstr

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FILE LAST UPDATED: 22 NOV 2004 <20041122/UP>
FILE COVERS 1980 TO DATE.

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=> fil biotechno

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FILE LAST UPDATED: 7 JAN 2004 <20040107/UP>
FILE COVERS 1980 TO 2003.

>>> BIOTECHNO IS NO LONGER BEING UPDATED AS OF 2004 <<<

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
/CT AND BASIC INDEX <<<

=> fil biotechds

FILE 'BIOTECHDS' ENTERED AT 12:30:31 ON 22 NOV 2004
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FILE LAST UPDATED: 18 NOV 2004 <20041118/UP>

>>> USE OF THIS FILE IS LIMITED TO BIOTECH SUBSCRIBERS <<<

>>> NEW CLASSIFICATION SYSTEM FROM 2002 ONWARDS - SEE HELP CLA <<<

>>> NEW DISPLAY FIELDS LS AND LS2 (LEGAL STATUS DATA FROM
THE INPADOC DATABASE) AVAILABLE - SEE NEWS <<<

=> fil wpix

FILE 'WPIX' ENTERED AT 12:30:36 ON 22 NOV 2004
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FILE LAST UPDATED: 17 NOV 2004 <20041117/UP>
MOST RECENT DERWENT UPDATE: 200474 <200474/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
PLEASE VISIT:
http://www.stn-international.de/training_center/patents/stn_guide.pdf <<<

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
<http://thomsonderwent.com/coverage/latestupdates/> <<<

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GUIDES, PLEASE VISIT:

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>>> NEW! FAST-ALERTING ACCESS TO NEWLY-PUBLISHED PATENT
DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX
FIRST VIEW - FILE WPIFV.

FOR FURTHER DETAILS: <http://www.thomsonderwent.com/dwpifv> <<<

>>> NEW DISPLAY FORMAT HITSTR ADDED ALLOWING DISPLAY OF
HIT STRUCTURES WITHIN THE BIBLIOGRAPHIC DOCUMENT <<<

>>> SMILES and ISOSMILES strings are no longer available as
Derwent Chemistry Resource display fields <<<

=> file stnguide

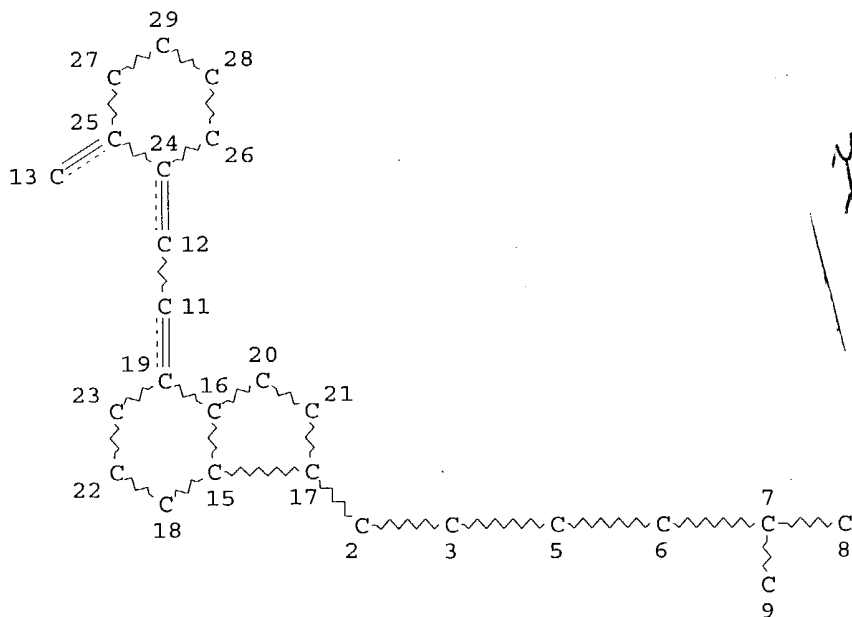
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FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Nov 19, 2004 (20041119/UP).

=> d que 127

L23 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 25

STEREO ATTRIBUTES: NONE

L25 3182 SEA FILE=REGISTRY SSS FUL L23

L26 14399 SEA FILE=REGISTRY ABB=ON PLU=ON 591.62.22/RID
 L27 0 SEA FILE=REGISTRY ABB=ON PLU=ON L26 AND L25

↑ No HITS - 25-OHD IN SAME STRUCTURE w/ ABEI

=> d que 173

L28 1 SEA FILE=REGISTRY ABB=ON PLU=ON 19356-17-3/RN
 L29 2974 SEA FILE=HCAPLUS ABB=ON PLU=ON L28
 L30 2974 SEA FILE=HCAPLUS ABB=ON PLU=ON L29 OR 19356-17-3P OR
 19356-17-3D?
 L31 1 SEA FILE=REGISTRY ABB=ON PLU=ON 66612-29-1/RN
 L32 112 SEA FILE=HCAPLUS ABB=ON PLU=ON L31
 L33 112 SEA FILE=HCAPLUS ABB=ON PLU=ON L32 OR 66612-29-1P OR
 66612-29-1D?
 L34 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L30 AND L33
 L43 31272 SEA FILE=HCAPLUS ABB=ON PLU=ON ?SECOCHOLEST? OR (25(1W)HCC)
 OR 25HCC OR ?CHOLECALCIF? OR VITAMIN D OR (VITAMIN(1W)D) OR
 VITAMIN D3 OR (VITAMIN(1W)D3)
 L44 204 SEA FILE=HCAPLUS ABB=ON PLU=ON ?CALCIDIOL? OR ?CALCIFEDIOL?
 OR ?CALDEROL? OR ?DEDROGYL? OR ?DIDROGYL? OR ?HIDROFEROL?
 L45 2 SEA FILE=HCAPLUS ABB=ON PLU=ON (RO 8-8892) OR (RO(1W)8(1W)889
 2) OR (U 32070E) OR (U(1W)32070E)
 L46 1857 SEA FILE=HCAPLUS ABB=ON PLU=ON (VITAMIN(1W)D?)/CW
 L47 259115 SEA FILE=HCAPLUS ABB=ON PLU=ON VITAMINS+PFT,NT/CT
 L48 5811 SEA FILE=HCAPLUS ABB=ON PLU=ON ?PHTHALAZIN? OR ?ISOLUMINOL?
 OR ABEI
 L49 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L30 AND L48
 L50 4 SEA FILE=HCAPLUS ABB=ON PLU=ON (L43 OR L44 OR L45 OR L46 OR
 L47) AND L33
 L52 10 SEA FILE=HCAPLUS ABB=ON PLU=ON (L43 OR L44 OR L45 OR L46)
 AND L48
 L54 43627 SEA FILE=HCAPLUS ABB=ON PLU=ON "IMMUNOCHEMICAL ANALYSIS (L)
 IMMUNOASSAY"+PFT,NT/CT
 L55 51101 SEA FILE=HCAPLUS ABB=ON PLU=ON "IMMUNOCHEMICAL ANALYSIS"+PFT,
 NT/CT
 L56 52656 SEA FILE=HCAPLUS ABB=ON PLU=ON IMMUNOASSAY+PFT,NT/CT
 L57 43 SEA FILE=HCAPLUS ABB=ON PLU=ON (L54 OR L55 OR L56) (L) ((L43
 OR L44 OR L45))
 L59 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L57 AND (L33 OR L48)
 L60 14 SEA FILE=HCAPLUS ABB=ON PLU=ON L34 OR L49 OR L50 OR L52 OR
 L59
 L63 35804 SEA FILE=HCAPLUS ABB=ON PLU=ON ?SECOCHOLEST? OR (25(1W)HCC)
 OR 25HCC OR ?CHOLECALCIF? OR ?VITAMIN? D OR (?VITAMIN?(1W)D)
 OR ?VITAMIN? D3 OR (?VITAMIN(1W)D3?)
 L64 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L63 AND L33
 L65 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L63 AND L48
 L68 17 SEA FILE=HCAPLUS ABB=ON PLU=ON L60 OR L64 OR L65
 L70 36381 SEA FILE=HCAPLUS ABB=ON PLU=ON (D OR D3) (3A) ?VITAMIN?
 L71 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L70 AND L33
 L72 14 SEA FILE=HCAPLUS ABB=ON PLU=ON L70 AND L48
 L73 18 SEA FILE=HCAPLUS ABB=ON PLU=ON (L71 OR L72) OR L68

=>

(FILE 'MEDLINE, BIOSIS, PASCAL, CABA, JICST-EPLUS' ENTERED AT 11:46:41 ON
 22 NOV 2004)

=> d que 195

L74 5909 SEA 19356-17-3
 L75 1 SEA (RO 8-8892) OR (RO(1W) 8(1W) 8892) OR (U 32070E) OR (U(1W)
 32070E)

L76 2591 SEA ?CALCIDIOL? OR ?CALCIFEDIOL? OR ?CALDEROL? OR ?DEDROGYL?
OR ?DIDROGYL? OR ?HIDROFEROL?
L77 103254 SEA ?SECOCHOLEST? OR (25(1W) HCC) OR 25HCC OR ?CHOLECALCIF? OR
?VITAMIN? D OR (?VITAMIN?(1W) D) OR ?VITAMIN? D3 OR (?VITAMIN(1
W) D3?)
L78 21 SEA 66612-29-1
L79 3072 SEA ABEI OR ?PHTHALAZIN? OR ?ISOLUMINOL?
L94 106074 SEA ?SECOCHOLEST? OR (25(1W) HCC) OR 25HCC OR ?CHOLECALCIF? OR
?VITAMIN? D OR (?VITAMIN?(1W) D) OR ?VITAMIN? D3 OR (?VITAMIN(1
W) D3?) OR ((D OR D3) (3A) ?VITAMIN?)
L95 3 SEA ((L74 OR L75 OR L76 OR L77) OR L94) AND ((L78 OR L79))

=>

(FILE 'EMBASE, ANABSTR, BIOTECHNO, BIOTECHDS' ENTERED AT 12:04:01 ON 22
NOV 2004)

=> d que 1106

L101 3646 SEA 19356-17-3
L102 2 SEA (RO 8-8892) OR (RO(1W) 8(1W) 8892) OR (U 32070E) OR (U(1W)
32070E)
L103 37775 SEA ?SECOCHOLEST? OR (25(1W) HCC) OR 25HCC OR ?CHOLECALCIF? OR
(?VITAMIN? D) OR (?VITAMIN?(1W) D) OR ?VITAMIN? D3 OR (?VITAMIN
(1W) D3?) OR ((D OR D3) (3A) ?VITAMIN?)
L104 3 SEA 66612-29-1
L105 1416 SEA ABEI OR ?PHTHALAZIN? OR ?ISOLUMINOL?
L106 3 SEA (L101 OR L102 OR L103) AND ((L104 OR L105))

=> d que 1119

L112 342868 SEA FILE=WPIX ABB=ON PLU=ON G01N?/IPC
L113 1917 SEA FILE=WPIX ABB=ON PLU=ON (B03-G? OR C03-G?)/MC
L114 74 SEA FILE=WPIX ABB=ON PLU=ON L112 AND L113
L115 6087 SEA FILE=WPIX ABB=ON PLU=ON (B06-D06? OR C06-D06?)/MC
L116 1 SEA FILE=WPIX ABB=ON PLU=ON L114 AND L115
L117 66005 SEA FILE=WPIX ABB=ON PLU=ON (?CONJUG? OR ?CONJ UGAT? OR
?ADDUCT? OR ADD UCT? OR AD DUCT?)/BIX
L118 7 SEA FILE=WPIX ABB=ON PLU=ON L114 AND L117
L119 7 SEA FILE=WPIX ABB=ON PLU=ON L118 OR L116

=> dup rem 173 195 1106 1119

FILE 'HCAPLUS' ENTERED AT 12:32:23 ON 22 NOV 2004
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PROCESSING COMPLETED FOR L73

PROCESSING COMPLETED FOR L95

PROCESSING COMPLETED FOR L106

PROCESSING COMPLETED FOR L119

L120 26 DUP REM L73 L95 L106 L119 (5 DUPLICATES REMOVED)

ANSWERS '1-18' FROM FILE HCAPLUS

ANSWER '19' FROM FILE BIOSIS

ANSWER '20' FROM FILE CABA

ANSWER '21' FROM FILE JICST-EPLUS

ANSWERS '22-26' FROM FILE WPIX

=> d iall

L120 ANSWER 1 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 2004:550647 HCAPLUS

DOCUMENT NUMBER: 141:50154

ENTRY DATE: Entered STN: 09 Jul 2004

TITLE: Vitamin D assay

INVENTOR(S): Sackrison, James L.; Miller, Andrew; Kamerud, John;
Ersfeld, Diana L.; Olson, Gregory T.; MacFarlane,
Gordon D.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 4 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

INT. PATENT CLASSIF.:

MAIN: G01N033-53

US PATENT CLASSIF.: 435007100

CLASSIFICATION: 9-10 (Biochemical Methods)
Section cross-reference(s): 18

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004132104	A1	20040708	US 2003-706567	20031112
WO 2004063704	A2	20040729	WO 2004-US117	20040105
W:	AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KR, KR, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ			

PRIORITY APPLN. INFO.:

US 2003-438385P P 20030107

US 2003-706567 A 20031112

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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US 2004132104	ICM	G01N033-53
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ABSTRACT:

A method of assaying a sample of blood or blood components for the presence of

25-hydroxy-**vitamin D** comprising: (a) lowering the pH of the sample to 5.5 or less to dissociate the 25-hydroxy-**vitamin D** from **vitamin D** binding proteins; and (b) determining the concentration of 25-hydroxy-**vitamin D** in the sample. The **vitamin** ***D*** binding proteins are not removed from the sample.

SUPPL. TERM: **vitamin D** assay
 INDEX TERM: Blood analysis
 Buffers
 Immunoassay
 pH
 (vitamin D assay)
 INDEX TERM: 1406-16-2, **Vitamin D**
 19356-17-3, 25-Hydroxy-**vitamin D**
 ROLE: ANT (Analyte); BSU (Biological study, unclassified);
 ANST (Analytical study); BIOL (Biological study)
 (vitamin D assay)
 INDEX TERM: 64-19-7, Acetic acid, biological studies 77-92-9,
 biological studies 66612-29-1
 ROLE: BUU (Biological use, unclassified); BIOL (Biological
 study); USES (Uses)
 (vitamin D assay)

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L120 ANSWER 2 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
 ACCESSION NUMBER: 2002:716321 HCAPLUS
 DOCUMENT NUMBER: 137:246527
 ENTRY DATE: Entered STN: 20 Sep 2002
 TITLE: Multivalent MHC constructs: Immunoanalysis, diagnosis
 and therapy
 INVENTOR(S): Winther, Lars; Petersen, Lars Oestergaard; Buus,
 Soeren; Schoeller, Joergen; Ruub, Erik; Aamellem,
 Oeystein
 PATENT ASSIGNEE(S): Dako A/S, Den.; Dynal Biotech Asa
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 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002072631	A2	20020919	WO 2002-DK169	20020313
WO 2002072631	C1	20021128		
WO 2002072631	A3	20031106		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,				
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,				
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,				
KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB,				

GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,
 GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1377609 A2 20040107 EP 2002-706685 20020313

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

NO 2003004020 A 20031106 NO 2003-4020 20030911

PRIORITY APPLN. INFO.: DK 2001-435 A 20010314
 DK 2001-436 A 20010314
 DK 2001-441 A 20010314
 US 2001-275447P P 20010314
 US 2001-275448P P 20010314
 US 2001-275470P P 20010314
 WO 2002-DK169 W 20020313

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002072631	ICM	C07K014-705

ABSTRACT:

The authors disclose MHC mol. constructs (classical and non-classical) conjugated to soluble or insol. carriers wherein the affinity and avidity of the constructs exceed that of comparable MHC tetramers. In one example, the construct is comprised of biotinylated HLA-A2 bound to FITC-labeled streptavidin conjugated to soluble derivatized dextran. The above construct loaded with MART-1 or influenza virus peptides was shown to effect T-cell activation at a lower concentration than. Also comprised by the present invention is the sample-mounted use of MHC mols., MHC mol. multimers, and MHC mol. constructs.

SUPPL. TERM: MHC antigen multimer immunoanalysis diagnosis therapy

INDEX TERM: Receptors
 ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (2B4; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Receptors
 ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (4-1BB; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Antigens
 ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (B7-H3; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Antigens
 ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (B7RP-1; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Chemokine receptors
 ROLE: ARG (Analytical reagent use); BPN (Biosynthetic

preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(CCR5; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

Antigens

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(CD134L; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

Antigens

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(CD137L; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

Antigens

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(CD153; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

CD antigens

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(CD1d; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

CD antigens

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(CD27; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

Glycoproteins

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(CD40-L (antigen CD40 ligand); of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

Antigens

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(CD48; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

Antigens

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(CD70; of multivalent constructs of MHC antigens for

immunoanal., diagnosis, and therapy)
INDEX TERM: CD antigens
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(CD72; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)
INDEX TERM: CD antigens
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(CD94; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)
INDEX TERM: CD antigens
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(CD9; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)
INDEX TERM: Chemokine receptors
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(CXCR4; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)
INDEX TERM: Intestine, disease
(Crohn's; multivalent constructs of MHC antigens for identification of immunocytes in)
INDEX TERM: Glycoproteins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(GlyCAM-1; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)
INDEX TERM: Histocompatibility antigens
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(HLA-A2.1, multivalent construct; for immunoanal., diagnosis, and therapy)
INDEX TERM: Histocompatibility antigens
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(HLA-E; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)
INDEX TERM: Histocompatibility antigens
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(HLA-F; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Histocompatibility antigens
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(HLA-G; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Histocompatibility antigens
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(HLA-H; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Receptors
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(HVEM; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Cell adhesion molecules
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(ICAM-1 (intercellular adhesion mol. 1); of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Cell adhesion molecules
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(ICAM-2 (intercellular adhesion mol. 2); of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Receptors
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(ICOS (inducible co-stimulator); of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Immunoglobulin receptors
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(IgG type III; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Antigen receptors
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(KIR (killer cell Ig-like); of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Cytokines

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(LIGHT; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

Receptors

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(LIR; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

Proteins

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(MBP (maltose-binding protein); of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

Histocompatibility antigens

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(MHC (major histocompatibility complex), class I, multivalent construct; for immunoanal., diagnosis, and therapy)

INDEX TERM:

Histocompatibility antigens

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(MHC (major histocompatibility complex), class II, multivalent construct; for immunoanal., diagnosis, and therapy)

INDEX TERM:

Proteins

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(NKG2A; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

Proteins

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(NKG2C; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

Proteins

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(NKG2D; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM:

Antigen receptors

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use);

ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(NKp30; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Antigen receptors
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(NKp44; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Antigen receptors
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(NKp46; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Antigen receptors
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(NKp80; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Antigens
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(OX-40; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Receptors
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(PD-1; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Antigens
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(PD-L1; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Antigens
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(PD-L2; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Laboratory ware
(Petri dishes; as carrier for multivalent constructs of MHC antigens)

INDEX TERM: Glycoproteins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP

(Preparation); USES (Uses)
(SLAM (signaling lymphocyte-activation mol.); of
multivalent constructs of MHC antigens for immunoanal.,
diagnosis, and therapy)

INDEX TERM: Toxins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic
preparation); DGN (Diagnostic use); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); PREP
(Preparation); USES (Uses)
(Shiga; of multivalent constructs of MHC antigens for
immunoanal., diagnosis, and therapy)

INDEX TERM: Cell proliferation
(T cell; in culture with multivalent constructs of MHC
antigens)

INDEX TERM: Adoptive immunotherapy
(T-cell expansion in culture with multivalent constructs
of MHC antigens for)

INDEX TERM: Proteins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic
preparation); DGN (Diagnostic use); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); PREP
(Preparation); USES (Uses)
(ULBP-1; of multivalent constructs of MHC antigens for
immunoanal., diagnosis, and therapy)

INDEX TERM: Proteins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic
preparation); DGN (Diagnostic use); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); PREP
(Preparation); USES (Uses)
(ULBP-2; of multivalent constructs of MHC antigens for
immunoanal., diagnosis, and therapy)

INDEX TERM: Proteins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic
preparation); DGN (Diagnostic use); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); PREP
(Preparation); USES (Uses)
(ULBP-3; of multivalent constructs of MHC antigens for
immunoanal., diagnosis, and therapy)

INDEX TERM: Cell adhesion molecules
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic
preparation); DGN (Diagnostic use); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); PREP
(Preparation); USES (Uses)
(VCAM-1; of multivalent constructs of MHC antigens for
immunoanal., diagnosis, and therapy)

INDEX TERM: Agglutinins and Lectins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic
preparation); DGN (Diagnostic use); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); PREP
(Preparation); USES (Uses)
(WGA (wheat germ agglutinins); of multivalent constructs
of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Onium compounds
ROLE: ARG (Analytical reagent use); DGN (Diagnostic use);
ANST (Analytical study); BIOL (Biological study); USES
(Uses)
(acridinium, esters; for labeling of multivalent
constructs of MHC antigens)

INDEX TERM: Immunostimulants
(adjuvants, Freund's incomplete; for vaccines of

multivalent constructs of MHC antigens)

INDEX TERM: Immunostimulants
(adjuvants, Freund's; for vaccines of multivalent constructs of MHC antigens)

INDEX TERM: Immunostimulants
(adjuvants, ISCOMs; for vaccines of multivalent constructs of MHC antigens)

INDEX TERM: Immunostimulants
(adjuvants; for vaccines of multivalent constructs of MHC antigens)

INDEX TERM: Capillary tubes
Filter paper
Gels
Membranes, nonbiological
Microparticles
Microspheres
Microtiter plates
Needles (tools)
(as carrier for multivalent constructs of MHC antigens)

INDEX TERM: DNA
Oligonucleotides
Peptide nucleic acids
Polyesters, biological studies
Polynucleotides
Polyoxyalkylenes, biological studies
Polysaccharides, biological studies
Polyurethanes, biological studies
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(as carrier for multivalent constructs of MHC antigens)

INDEX TERM: Fibers
ROLE: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(as carrier for multivalent constructs of MHC antigens)

INDEX TERM: Dermatitis
(atopic; multivalent constructs of MHC antigens for identification of immunocytes in)

INDEX TERM: Proteins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(basigin; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Luminescent substances
(bioluminescent; for labeling of multivalent constructs of MHC antigens)

INDEX TERM: Protein motifs
(calmodulin-binding; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Protein motifs
(cellulose-binding domain; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Uterus, neoplasm
(cervix; multivalent constructs of MHC antigens for identification of immunocytes in)

INDEX TERM: Protein motifs

(chitin-binding; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Toxins
ROLE: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cholera; for vaccines of multivalent constructs of MHC antigens)

INDEX TERM: Intestine, neoplasm
(colorectal; multivalent constructs of MHC antigens for identification of immunocytes in)

INDEX TERM: Peptides, biological studies
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(complexes; with multivalent constructs of MHC antigens)

INDEX TERM: Skin, neoplasm
(cutaneous lymphoma; multivalent constructs of MHC antigens for identification of immunocytes in)

INDEX TERM: T cell (lymphocyte)
(cytotoxic; multivalent constructs of MHC antigens for identification of)

INDEX TERM: Toxins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(exotoxin A; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Cytometry
(flow; multivalent constructs of MHC antigens for use in)

INDEX TERM: Dendritic cell
(for T-cell expansion in culture with multivalent constructs of MHC antigens)

INDEX TERM: Chemiluminescent substances
Fluorescent dyes
Nanocrystals
(for labeling of multivalent constructs of MHC antigens)

INDEX TERM: Enzymes, biological studies
Phycoerythrins
Polymers, biological studies
Radionuclides, biological studies
ROLE: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(for labeling of multivalent constructs of MHC antigens)

INDEX TERM: Interleukin 1 β
Phosphatidylethanolamines, biological studies
Saponins
ROLE: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(for vaccines of multivalent constructs of MHC antigens)

INDEX TERM: Antibodies and Immunoglobulins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(fragments, immobilized; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Proteins

ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(gene mica; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Proteins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(gene micb; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Transplant and Transplantation
(graft-vs.-host reaction; multivalent constructs of MHC antigens for identification of immunocytes in)

INDEX TERM: Proteins
ROLE: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(green fluorescent; for labeling of multivalent constructs of MHC antigens)

INDEX TERM: T cell (lymphocyte)
(helper cell; multivalent constructs of MHC antigens for identification of)

INDEX TERM: Antibodies and Immunoglobulins
Avidins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(immobilized; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Immunoassay
(immunohistochem.; multivalent constructs of MHC antigens for use in)

INDEX TERM: Drug delivery systems
(immunotoxins, FN18-CRM9; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Diabetes mellitus
(insulin-dependent; multivalent constructs of MHC antigens for identification of immunocytes in)

INDEX TERM: Lymphocyte
(killer cell; multivalent constructs of MHC antigens for identification of)

INDEX TERM: Protein motifs
(leucine zipper; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Drug delivery systems
(liposomes; for vaccines of multivalent constructs of MHC antigens)

INDEX TERM: Nucleic acids
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(locked; as carrier for multivalent constructs of MHC antigens)

INDEX TERM: Lymphocyte
(lymphokine-activated killer cell; multivalent constructs

of MHC antigens for identification of)

INDEX TERM: Microparticles
(magnetic; as carrier for multivalent constructs of MHC antigens)

INDEX TERM: Infection
(measles; multivalent constructs of MHC antigens for identification of immunocytes in)

INDEX TERM: Magnetic particles
(microparticles; as carrier for multivalent constructs of MHC antigens)

INDEX TERM: Pipets
(micropipets, tips; as carrier for multivalent constructs of MHC antigens)

INDEX TERM: Laboratory ware
(microtiter strip; as carrier for multivalent constructs of MHC antigens)

INDEX TERM: Laboratory ware
(microtiter tube; as carrier for multivalent constructs of MHC antigens)

INDEX TERM: Antibodies and Immunoglobulins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(monoclonal, immobilized; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Lipid A
ROLE: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(monophosphates; for vaccines of multivalent constructs of MHC antigens)

INDEX TERM: Immunotherapy
(multivalent constructs of MHC antigens for)

INDEX TERM: CD4-positive T cell
CD8-positive T cell
(multivalent constructs of MHC antigens for identification of)

INDEX TERM: Microscopy
(multivalent constructs of MHC antigens for identification of immunocytes by)

INDEX TERM: AIDS (disease)
Allergy
Asthma
Autoimmune disease
Bladder, neoplasm
Blood
Body fluid
Bone marrow
Brain, neoplasm
Head, neoplasm
Inflammation
Leukemia
Liver, neoplasm
Lung, neoplasm
Mammary gland, neoplasm
Melanoma
Neoplasm
Prostate gland, neoplasm
Psoriasis
Rheumatoid arthritis

Rubella
 Spleen
 Sputum
 Transplant rejection
 Uterus, neoplasm
 (multivalent constructs of MHC antigens for
 identification of immunocytes in)
 INDEX TERM: Herpesviridae
 (multivalent constructs of MHC antigens for
 identification of immunocytes in infection by)
 INDEX TERM: Diagnosis
 (multivalent constructs of MHC antigens for use in)
 INDEX TERM: Aves
 Bos taurus
 Human
 Rattus
 Sus scrofa domestica
 (multivalent constructs of MHC antigens of)
 INDEX TERM: Lymphocyte
 (natural killer cell; multivalent constructs of MHC
 antigens for identification of)
 INDEX TERM: T cell (lymphocyte)
 (natural killer; multivalent constructs of MHC antigens
 for identification of)
 INDEX TERM: Neck, anatomical
 (neoplasm; multivalent constructs of MHC antigens for
 identification of immunocytes in)
 INDEX TERM: Histocompatibility antigens
 ROLE: ARG (Analytical reagent use); BPN (Biosynthetic
 preparation); DGN (Diagnostic use); THU (Therapeutic use);
 ANST (Analytical study); BIOL (Biological study); PREP
 (Preparation); USES (Uses)
 (non-classical, multivalent construct; for immunoanal.,
 diagnosis, and therapy)
 INDEX TERM: 2,4-Dinitrophenyl group
 Epitopes
 Phosphors
 (of multivalent constructs of MHC antigens for
 immunoanal., diagnosis, and therapy)
 INDEX TERM: CD2 (antigen)
 CD28 (antigen)
 CD3 (antigen)
 CD30 (antigen)
 CD34 (antigen)
 CD4 (antigen)
 CD40 (antigen)
 CD5 (antigen)
 CD69 (antigen)
 CD8 (antigen)
 CD80 (antigen)
 CD86 (antigen)
 CTLA-4 (antigen)
 Cell adhesion molecules
 Chemokines
 Fas antigen
 Fas ligand
 Haptens
 Interleukin 1
 Interleukin 10
 Interleukin 11

Interleukin 12
 Interleukin 15
 Interleukin 2
 Interleukin 3
 Interleukin 4
 Interleukin 6
 Interleukin 7
 Interleukin 8
 LFA-1 (antigen)
 LFA-3 (antigen)
 Receptors
 Ricins
 Toxins
 ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)
 INDEX TERM: Immobilization, molecular or cellular
 (on sheets as carrier for multivalent constructs of MHC antigens)
 INDEX TERM: Metals, biological studies
 ROLE: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (particles; for labeling of multivalent constructs of MHC antigens)
 INDEX TERM: T cell (lymphocyte)
 (proliferation; in culture with multivalent constructs of MHC antigens)
 INDEX TERM: Kidney, neoplasm
 (renal cell carcinoma; multivalent constructs of MHC antigens for identification of immunocytes in)
 INDEX TERM: Proteins
 ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (saporin; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)
 INDEX TERM: Nervous system, disease
 (sclerosis; multivalent constructs of MHC antigens for identification of immunocytes in)
 INDEX TERM: Albumins, biological studies
 ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (serum; as carrier for multivalent constructs of MHC antigens)
 INDEX TERM: Microscopes
 (slides; as carrier for multivalent constructs of MHC antigens)
 INDEX TERM: T cell (lymphocyte)
 (suppressor cell; multivalent constructs of MHC antigens for identification of)
 INDEX TERM: Vaccines
 (synthetic; multivalent constructs of MHC antigens for)
 INDEX TERM: Intestine, disease

(ulcerative colitis; multivalent constructs of MHC antigens for identification of immunocytes in)

INDEX TERM: Human herpesvirus 3
(varicella from; multivalent constructs of MHC antigens for identification of immunocytes in)

INDEX TERM: Hepatitis
Infection
(viral; multivalent constructs of MHC antigens for identification of immunocytes in)

INDEX TERM: Virion structure
(virus-like particle; as carrier for multivalent constructs of MHC antigens)

INDEX TERM: Interferons
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(α ; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Integrins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
($\alpha 1\beta 1$; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Integrins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
($\alpha 2\beta 1$; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Integrins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
($\alpha 3\beta 1$; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Integrins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
($\alpha 4\beta 1$; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Integrins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
($\alpha 5\beta 1$; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Integrins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
($\alpha 6\beta 1$; of multivalent constructs of MHC

antigens for immunoanal., diagnosis, and therapy)
INDEX TERM: Transforming growth factors
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(β-; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Interferons
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(β; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: Microglobulins
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(β2-; of multivalent constructs of MHC antigens)

INDEX TERM: Interferons
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(γ; of multivalent constructs of MHC antigens for immunoanal., diagnosis, and therapy)

INDEX TERM: 1398-61-4P, Chitin 9000-07-1P, Carrageenan 9000-30-0P, Guaran 9002-89-5P, Poly(vinyl alcohol) 9002-98-6P 9003-01-4P, Poly(acrylic acid) 9003-11-6P, Ethylene oxide-propylene oxide copolymer 9004-30-2P, Carboxymethyl hydroxyethyl cellulose 9004-32-4P, Carboxymethyl cellulose 9004-34-6DP, Cellulose, derivs. 9004-54-0DP, Dextran, polyaldehydes, biological studies 9004-62-0P, Hydroxyethyl cellulose 9005-25-8DP, Starch, hydroxylated 9005-27-0P, Hydroxyethyl starch 9005-32-7P, Alginic acid 9011-14-7P, Poly(methyl methacrylate) 9012-36-6P, Agarose 9012-76-4P, Chitosan 9032-36-4P 9044-05-7DP, Carboxymethyl dextran, lactones 9044-05-7P, Carboxymethyl dextran 9049-76-7P, Hydroxypropyl starch 9050-67-3P, Schizophyllan 9057-02-7P, Pullulan 11138-66-2P, Xanthan 12619-70-4P, Cyclodextrin 24937-72-2P, Poly(maleic anhydride) 25087-26-7P, Poly(methacrylic acid) 25104-18-1P, Polylysine 25249-16-5P, Poly(2-hydroxy ethyl methacrylate) 25322-68-3P, Polyethylene glycol 25322-69-4P, Polypropylene glycol 25513-46-6P, Polyglutamic acid 25702-74-3P, Ficoll 26099-09-2P, Poly(maleic acid) 28651-69-6P, Vinyl alcohol-vinyl chloroacetate polymer 39385-63-2P, 6-Amino-6-deoxy cellulose 39464-87-4P, Scleroglucan 52108-64-2P, 6-O-Carboxymethyl chitin 83512-85-0P, N-Carboxymethyl chitosan 124586-30-7P, Carboxymethyl ficoll 142804-65-7P, Gellan
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(as carrier for multivalent constructs of MHC antigens)

INDEX TERM: 289-80-5D, Pyridazine, derivs. 521-31-3, Luminol

3301-79-9, 6-Carboxyfluorescein 3682-14-2,
Isoluminol 6788-84-7, 1,2-Dioxetane 9001-37-0,
 Glucose oxidase 9001-40-5, Glucose 6-phosphate
 dehydrogenase 9001-45-0, β -Glucuronidase 9001-57-4,
 Invertase 9001-78-9 9002-17-9, Xanthine oxidase
 9012-33-3, β -N-Acetylglucosaminidase 9031-11-2,
 β -Galactosidase 13558-31-1 22541-17-9,
 Samarium(3+), biological studies 22541-18-0, Europium(3+),
 biological studies 27072-45-3, FITC 61970-00-1, Firefly
 luciferase 70281-37-7, Tetramethylrhodamine 76823-03-5,
 5-Carboxyfluorescein 82354-19-6, Texas Red 102185-03-5,
 Cy2 106562-32-7, AMCA 146368-14-1, Cy5 146368-16-3,
 Cy3 265981-56-4 422551-33-5, PerCP
 ROLE: ARG (Analytical reagent use); DGN (Diagnostic use);
 ANST (Analytical study); BIOL (Biological study); USES
 (Uses)
 (for labeling of multivalent constructs of MHC antigens)
 INDEX TERM: 53-43-0, DHEA 72-55-9, DDE, biological studies 83-44-3D,
 alum complexes 7429-90-5D, Aluminum, salts 10103-46-5,
 Calcium phosphate 18656-38-7,
 Dimyristoylphosphatidylcholine 26780-50-7,
 Poly(lactide-co-glycolide) 53678-77-6, Muramyl dipeptide
 61361-72-6, DMPG 66578-77-6, Adju-Phos 66594-14-7, Quil
 A 124389-07-7, Muramyl tripeptide 141256-04-4, QS-21
 172889-84-8, MF59
 ROLE: THU (Therapeutic use); BIOL (Biological study); USES
 (Uses)
 (for vaccines of multivalent constructs of MHC antigens)
 INDEX TERM: 9003-99-0, Peroxidase
 ROLE: ARG (Analytical reagent use); DGN (Diagnostic use);
 ANST (Analytical study); BIOL (Biological study); USES
 (Uses)
 (horseradish; for labeling of multivalent constructs of
 MHC antigens)
 INDEX TERM: 58-85-5P, Biotin 9013-20-1P, Streptavidin
 ROLE: ARG (Analytical reagent use); BPN (Biosynthetic
 preparation); DGN (Diagnostic use); THU (Therapeutic use);
 ANST (Analytical study); BIOL (Biological study); PREP
 (Preparation); USES (Uses)
 (immobilized; of multivalent constructs of MHC antigens
 for immunoanal., diagnosis, and therapy)
 INDEX TERM: 50-18-0P, Cyclophosphamide 59-05-2P, Methotrexate
 67-97-0P, **Vitamin D3** 446-72-0P,
 Genistein 446-86-6P, Azathioprine 1404-04-2P, Neomycin
 1672-46-4P, Digoxigenin 7439-97-6DP, Mercury, compds.
 7440-48-4P, Cobalt, biological studies 7553-56-2P, Iodine,
 biological studies 7782-49-2P, Selenium, biological
 studies 9003-05-8P, Polyacrylamide 9004-54-0P, Dextran,
 biological studies 10028-17-8P, Tritium, biological
 studies 11028-71-0P, Con A 23593-75-1P, Clotrimazole
 39562-70-4P, Nitrendipine 50924-49-7P, Mizoribine
 53123-88-9P, Rapamycin 59865-13-3P, Cyclosporin
 62683-29-8P, Colony-stimulating factor 62996-74-1P,
 Staurosporine 64134-30-1P 70563-58-5P, Herbimycin A
 89149-10-0P, 15-Deoxyspergualin 95751-30-7P, Charybdotoxin
 98849-88-8P 104987-11-3P, FK-506 174722-31-7P, Rituxan
 205938-74-5P 220578-59-6P, Gemtuzumab Ozogamicin
 ROLE: ARG (Analytical reagent use); BPN (Biosynthetic
 preparation); DGN (Diagnostic use); THU (Therapeutic use);
 ANST (Analytical study); BIOL (Biological study); PREP

(Preparation); USES (Uses)
(of multivalent constructs of MHC antigens for
immunoanal., diagnosis, and therapy)

L120 ANSWER 3 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3

ACCESSION NUMBER: 1999:516239 HCAPLUS

DOCUMENT NUMBER: 131:322828

ENTRY DATE: Entered STN: 18 Aug 1999

TITLE: Synthesis of 25-**hydroxyprovitamin D3**
from ergosterol. A mild method for the cleavage of
hetero Diels-Alder adducts leading to steroidal
5,7-dienes

AUTHOR(S): Scherlitz-Hofmann, Ina; Dubs, Manuela; Prousa,
Richard; Schonecker, Bruno; Droescher, Peter; Schick,
Hans; Schrotter, Eberhard

CORPORATE SOURCE: Institut Organische Chemie Makromolekulare Chemie,
Friedrich-Schiller-Univ., Jena, D-07743, Germany

SOURCE: Synthesis (1999), (8), 1331-1334

CODEN: SYNTBF; ISSN: 0039-7881

PUBLISHER: Georg Thieme Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

CLASSIFICATION: 32-7 (Steroids)

OTHER SOURCE(S): CASREACT 131:322828

ABSTRACT:

A new efficient 7-step procedure is described for the preparation of
3 β ,25-dihydroxycholesta-5,7-diene (I) from ergosterol in a total yield of
30%. The 3-hydroxy function of ergosterol is protected as Me₃CMe₂Si ether and
the 5,7-diene system as hetero Diels-Alder adduct with 2,3-
dihydrophthalazine -1,4-dione before ozonization of the side-chain
double bond. The key step of this synthesis is a very mild method for the
cleavage of the hetero Diels-Alder adduct using Li naphthalenide. Tosylation
of the 22-hydroxy function, C-C coupling with a C5 Cu reagent and desilylation
in usual way furnished I.

SUPPL. TERM: **hydroxyprovitamin D3** prepn;
provitamin D3 hydroxy prepn; ergosterol
phthalazinedione Diels Alder adduct cleavage

INDEX TERM: Ring opening
(synthesis of **hydroxyprovitamin D3**
from ergosterol via cleavage of hetero Diels-Alder
adduct)

INDEX TERM: 57-87-4, Ergosterol 1445-69-8, 2,3-Dihydro-1,4-
phthalazinedione 248580-59-8

ROLE: RCT (Reactant); RACT (Reactant or reagent)

(synthesis of **hydroxyprovitamin D3**
from ergosterol via cleavage of hetero Diels-Alder
adduct)

INDEX TERM: 87080-73-7P 87080-74-8P 95307-26-9P 148061-67-0P
175287-80-6P 248580-58-7P

ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)

(synthesis of **hydroxyprovitamin D3**
from ergosterol via cleavage of hetero Diels-Alder
adduct)

INDEX TERM: 22145-68-2P, 25-**Hydroxyprovitamin D3**
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of **hydroxyprovitamin D3**
from ergosterol via cleavage of hetero Diels-Alder
adduct)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD.

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L120 ANSWER 4 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4

ACCESSION NUMBER: 1990:459683 HCAPLUS

DOCUMENT NUMBER: 113:59683

ENTRY DATE: Entered STN: 17 Aug 1990

TITLE: An improved synthesis of (24R)-24,25-

dihydroxyprovitamin D3

AUTHOR(S): Schroetter, Eberhard; Schoenecker, Bruno; Hauschild, Ulrich; Droescher, Peter; Schick, Hans

CORPORATE SOURCE: Cent. Inst. Org. Chem., Acad. Sci. GDR, Berlin, DDR - 1199, Germany

SOURCE: Synthesis (1990), (3), 193-5
CODEN: SYNTBF; ISSN: 0039-7881

DOCUMENT TYPE: Journal

LANGUAGE: English

CLASSIFICATION: 32-7 (Steroids)

OTHER SOURCE(S): CASREACT 113:59683

GRAPHIC IMAGE:

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

ABSTRACT:

The title compound (I) was prepared in 33% overall yield by a 6-step procedure starting from Diels-Alder adduct II. The yield thus obtained is more than four times as high as that of an 8-step synthesis based on the Diels-Alder adduct of ergosteryl acetate and 4-phenyl-1,2,4-triazoline-3,5-dione. The combination of the benzoyl group and the 1,4-dioxo-1,2,3,4--**tetrahydrophthalazin**-2,3-diyl group for the protection of the 3 β -hydroxy group and the

5,7-diene system, resp., did not only raise the yield of the crucial ozonization step to 87% but was also advantageous in that it diminished the air and light sensitivity of the intermediates in the following reaction steps.

SUPPL. TERM: **provitamin D3** dihydroxy
INDEX TERM: 128219-60-3P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and elimination reaction of)
INDEX TERM: 128219-59-0P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and hydride reduction of)
INDEX TERM: 104729-36-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and reaction of, with dihydroxymethylbutyl tosylate)
INDEX TERM: 116653-46-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and reaction of, with sodium benzenesulfinate)
INDEX TERM: 116653-45-3P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and tosylation of)
INDEX TERM: 55700-54-4P
ROLE: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
INDEX TERM: 55721-11-4
ROLE: RCT (Reactant); RACT (Reactant or reagent) (preparation of **dihydroxyprovitamin D3** as intermediate for)
INDEX TERM: 77522-15-7
ROLE: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with hydroxy(phenylsulfonyl)bisnorcholadiene)
INDEX TERM: 873-55-2
ROLE: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with steroid tosylate)
INDEX TERM: 81126-45-6
ROLE: RCT (Reactant); RACT (Reactant or reagent) (sequential ozonolysis and borohydride reduction of)

L120 ANSWER 5 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2004:291953 HCAPLUS

DOCUMENT NUMBER: 140:297551

ENTRY DATE: Entered STN: 09 Apr 2004

TITLE: Use of 4-**pyridylmethylphthalazine** derivatives for the manufacture of a medicament for the treatment of myelodysplastic syndromes

INVENTOR(S): Dugan, Margaret Han; List, Alan

PATENT ASSIGNEE(S): Novartis AG, Switz.; Novartis Pharma GmbH; The Arizona Board of Regents On Behalf of the University of Arizona

SOURCE: PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

INT. PATENT CLASSIF.:

MAIN: A61K031-502
 SECONDARY: A61P007-00; A61P007-06
 CLASSIFICATION: 1-12 (Pharmacology)
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004028542	A1	20040408	WO 2003-EP10578	20030923
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LT, LU, LV, MA, MD, MK, MN, MX, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SE, SG, SK, SY, TJ, TM, TN, TR, TT, UA, US, UZ, VC, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
PRIORITY APPLN. INFO.:			US 2002-413176P	P 20020924

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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WO 2004028542	ICM	A61K031-502
	ICS	A61P007-00; A61P007-06

OTHER SOURCE(S): MARPAT 140:297551

ABSTRACT:

The invention discloses a method for treating myelodysplastic syndromes comprising administering a therapeutically effective amount of a 4-
 pyridylmethylphthalazine derivative (e.g. PTK787) to a warm-blooded animal in need thereof.

SUPPL. TERM: **pyridylmethylphthalazine** deriv myelodysplastic syndrome treatment; PTK787 myelodysplastic syndrome treatment
 INDEX TERM: Drug delivery systems
 Human
 Myelodysplastic syndromes
 (pyridylmethylphthalazine derivs. for treatment of myelodysplastic syndromes)
 INDEX TERM: 7439-89-6, Iron, biological studies
 ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
 (iron load-lowering agent;
pyridylmethylphthalazine derivs. for treatment of myelodysplastic syndromes, and use with other agents)
 INDEX TERM: 212142-18-2, PTK 787 501901-70-8D, derivs.
 ROLE: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (pyridylmethylphthalazine derivs. for treatment of myelodysplastic syndromes)
 INDEX TERM: 67-97-0, Vitamin D3 1327-53-3, Arsenic trioxide 8059-24-3, Vitamin B6 11096-26-7, Erythropoietin 11103-57-4, Vitamin A 83869-56-1, GM-CSF 143011-72-7, G-CSF
 ROLE: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (pyridylmethylphthalazine derivs. for treatment of myelodysplastic syndromes, and use with other agents)
 REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD.
 REFERENCE(S): (1) Bayer Ag; WO 0110859 A 2001 HCAPLUS

- (2) Manley, P; WO 0059509 A 2000 HCAPLUS
(3) Novartis Erfind Verwalt GmbH; WO 9835958 A 1998 HCAPLUS

L120 ANSWER 6 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:427690 HCAPLUS
DOCUMENT NUMBER: 129:92583
ENTRY DATE: Entered STN: 11 Jul 1998
TITLE: Assays for functional nuclear receptors
INVENTOR(S): Nargessi, Ruhangiz Dokhi
PATENT ASSIGNEE(S): Chiron Diagnostics Corp., USA
SOURCE: U.S., 28 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: A61K005-00
US PATENT CLASSIF.: 424001490
CLASSIFICATION: 9-10 (Biochemical Methods)
Section cross-reference(s): 2, 3, 14
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5770176	A	19980623	US 1995-569977	19951208
PRIORITY APPLN. INFO.:			US 1995-569977	19951208

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5770176	ICM	A61K005-00
	NCL	424001490

ABSTRACT:

Methods and test kits for detecting, or detecting and quantitating functional nuclear receptors in cell or tissue samples are disclosed. Such methods provide highly sensitive assays requiring small sample sizes and short turnaround times. The methods are useful in developing prognoses and/or treatment programs for cancer patients, especially in determining whether therapy to interfere with the receptor's activation of gene transcription, such as, endocrine therapy, would be helpful. An estrogen receptor (ER) ELISA involved incubating assay buffer, estradiol solution, and patient cytosol or controls in ER monoclonal antibody-coated microtiter wells; washing the wells; and adding an estrogen response element octamer that had been biotinylated. After incubation and washing, the wells were reacted with streptavidin-horseradish peroxidase conjugate. TMB was the enzyme substrate used in the assay. The absorbance was measured at 450 nm. Twenty-three breast cancer cytosols were assayed.

SUPPL. TERM: functional nuclear receptor immunoassay; estrogen receptor ELISA breast cancer
INDEX TERM: Plasmids
(Z16.0121 containing tandem octamer of 38 bp estrogen response element consensus sequence segment, cloning and expression of; immunoassays for functional nuclear receptors)
INDEX TERM: Onium compounds
ROLE: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(acridinium, esters, detectable markers; immunoassays for functional nuclear receptors)
INDEX TERM: Onium compounds

ROLE: ARG (Analytical reagent use); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); USES
(Uses)
(acridinium, sulfonyl carboxamides, detectable markers;
immunoassays for functional nuclear receptors)

INDEX TERM: Immunoassay
(apparatus, automated; immunoassays for functional nuclear
receptors)

INDEX TERM: Luminescent substances
(bioluminescent, detectable markers; immunoassays for
functional nuclear receptors)

INDEX TERM: Uterus, neoplasm
(cervix, diagnosis and prognosis in relation to;
immunoassays for functional nuclear receptors)

INDEX TERM: DNA
Nucleic acids
ROLE: ARG (Analytical reagent use); BPR (Biological
process); BSU (Biological study, unclassified); THU
(Therapeutic use); ANST (Analytical study); BIOL (Biological
study); PROC (Process); USES (Uses)
(containing response elements for nuclear receptors;
immunoassays for functional nuclear receptors)

INDEX TERM: Avidins
ROLE: ARG (Analytical reagent use); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); USES
(Uses)
(detectable marker binding pair component; immunoassays
for functional nuclear receptors)

INDEX TERM: Chemiluminescent substances
Dyes
Fluorescent substances
(detectable markers; immunoassays for functional nuclear
receptors)

INDEX TERM: Enzymes, biological studies
Radionuclides, biological studies
ROLE: ARG (Analytical reagent use); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); USES
(Uses)
(detectable markers; immunoassays for functional nuclear
receptors)

INDEX TERM: Neoplasm
Ovary, neoplasm
Uterus, neoplasm
(diagnosis and prognosis in relation to; immunoassays for
functional nuclear receptors)

INDEX TERM: Uterus, neoplasm
(endometrium, diagnosis and prognosis in relation to;
immunoassays for functional nuclear receptors)

INDEX TERM: Immunoassay
(enzyme-linked immunosorbent assay; immunoassays for
functional nuclear receptors)

INDEX TERM: Ligands
ROLE: ARG (Analytical reagent use); BPR (Biological
process); BSU (Biological study, unclassified); THU
(Therapeutic use); ANST (Analytical study); BIOL (Biological
study); PROC (Process); USES (Uses)
(for nuclear receptors; immunoassays for functional
nuclear receptors)

INDEX TERM: Nuclear receptors
ROLE: ANT (Analyte); BPR (Biological process); BSU

(Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(functional; immunoassays for functional nuclear receptors)

INDEX TERM:

Nucleic acids

ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)

(immobilized, containing response elements for nuclear receptors; immunoassays for functional nuclear receptors)

INDEX TERM:

Antibodies

ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)

(immobilized, to nuclear receptors; immunoassays for functional nuclear receptors)

INDEX TERM:

Immunoassay

Nucleic acid hybridization

(immunoassays for functional nuclear receptors)

INDEX TERM:

Androgen receptors

Estrogen receptors

Glucocorticoid receptors

Mineralocorticoid receptors

Progesterone receptors

Retinoic acid receptors

Steroid receptors

Thyroid hormone receptors

Vitamin D receptors

ROLE: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)

(immunoassays for functional nuclear receptors)

INDEX TERM:

Nucleic acids

ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)

(labeled, containing response elements for nuclear receptors; immunoassays for functional nuclear receptors)

INDEX TERM:

Antibodies

ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)

(labeled, to nuclear receptors; immunoassays for functional nuclear receptors)

INDEX TERM:

Antibodies

ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)

(monoclonal, to nuclear receptors; immunoassays for functional nuclear receptors)

INDEX TERM:

Mammary gland

Prostate gland

Vagina

Vagina
 Vagina
 (neoplasm, diagnosis and prognosis in relation to;
 immunoassays for functional nuclear receptors)

INDEX TERM: Microtiter plates
 (nucleic acid reagent or antibodies immobilized in wells
 of; immunoassays for functional nuclear receptors)

INDEX TERM: Containers
 (nucleic acid reagent or antibodies immobilized on walls
 of; immunoassays for functional nuclear receptors)

INDEX TERM: Magnetic particles
 Particles
 (nucleic acid reagent or antibodies immobilized on;
 immunoassays for functional nuclear receptors)

INDEX TERM: Prognosis
 (of cancer in relation to; immunoassays for functional
 nuclear receptors)

INDEX TERM: Particles
 (paramagnetic, nucleic acid reagent or antibodies
 immobilized on; immunoassays for functional nuclear
 receptors)

INDEX TERM: Proteins, specific or class
 ROLE: ARG (Analytical reagent use); THU (Therapeutic use);
 ANST (Analytical study); BIOL (Biological study); USES
 (Uses)
 (photoproteins, detectable markers; immunoassays for
 functional nuclear receptors)

INDEX TERM: Genetic element
 ROLE: ARG (Analytical reagent use); BPR (Biological
 process); BSU (Biological study, unclassified); THU
 (Therapeutic use); ANST (Analytical study); BIOL (Biological
 study); PROC (Process); USES (Uses)
 (response elements for nuclear receptors; immunoassays
 for functional nuclear receptors)

INDEX TERM: Antibodies
 ROLE: ARG (Analytical reagent use); BPR (Biological
 process); BSU (Biological study, unclassified); THU
 (Therapeutic use); ANST (Analytical study); BIOL (Biological
 study); PROC (Process); USES (Uses)
 (to nuclear receptors; immunoassays for functional
 nuclear receptors)

INDEX TERM: Reproductive organ
 (vulva, cancer, diagnosis and prognosis in relation to;
 immunoassays for functional nuclear receptors)

INDEX TERM: 179633-63-7
 ROLE: ARU (Analytical role, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES
 (Uses)
 (alkaline phosphatase substrate enhancer; immunoassays for
 functional nuclear receptors)

INDEX TERM: 330-13-2, p-Nitrophenyl phosphate 209465-46-3
 ROLE: ARG (Analytical reagent use); THU (Therapeutic use);
 ANST (Analytical study); BIOL (Biological study); USES
 (Uses)
 (alkaline phosphatase substrate; immunoassays for functional
 nuclear receptors)

INDEX TERM: 58-85-5, Biotin 9013-20-1, Streptavidin
 ROLE: ARG (Analytical reagent use); THU (Therapeutic use);
 ANST (Analytical study); BIOL (Biological study); USES
 (Uses)

(detectable marker binding pair component; immunoassays for functional nuclear receptors)

INDEX TERM: 56-73-5, Glucose 6-phosphate 93-35-6, Umbelliferone
521-31-3, Luminol 2321-07-5, Fluorescein 3682-14-2D,
Isoluminol, derivs. 9001-37-0, Glucose oxidase
9001-78-9, Alkaline phosphatase 9002-17-9, Xanthine
oxidase 9014-00-0, Luciferase 9025-35-8,
 α -Galactosidase 9031-11-2, β -Galactosidase
ROLE: ARG (Analytical reagent use); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); USES
(Uses)

(detectable markers; immunoassays for functional nuclear receptors)

INDEX TERM: 11103-57-4, Vitamin A
ROLE: ANT (Analyte); BPR (Biological process); BSU
(Biological study, unclassified); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); PROC
(Process); USES (Uses)

(hormonal receptors; immunoassays for functional nuclear receptors)

INDEX TERM: 34314-06-2, Tetramethyl benzidine 172834-40-1
ROLE: ARG (Analytical reagent use); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); USES
(Uses)

(horseradish peroxidase substrate; immunoassays for functional nuclear receptors)

INDEX TERM: 9003-99-0, Peroxidase
ROLE: ARG (Analytical reagent use); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); USES
(Uses)

(horseradish, detectable markers; immunoassays for functional nuclear receptors)

INDEX TERM: 9003-99-0D, Peroxidase, conjugates with streptavidin
ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU
(Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)

(horseradish; immunoassays for functional nuclear receptors)

INDEX TERM: 209619-55-6DP, biotinylated
ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); SPN
(Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP
(Preparation); PROC (Process); USES (Uses)

(immunoassays for functional nuclear receptors)

INDEX TERM: 9013-20-1D, Streptavidin, conjugates with horseradish peroxidase
ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU
(Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)

(immunoassays for functional nuclear receptors)

INDEX TERM: 72040-63-2
ROLE: RCT (Reactant); RACT (Reactant or reagent)

(immunoassays for functional nuclear receptors)

INDEX TERM: 50-28-2, Estradiol, biological studies
ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU
(Therapeutic use); ANST (Analytical study); BIOL (Biological

study); PROC (Process); USES (Uses)
(ligand for estrogen receptors; immunoassays for functional nuclear receptors)

INDEX TERM: 209534-69-0
ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(nucleotide sequence, estrogen response element segment consensus sequence; immunoassays for functional nuclear receptors)

INDEX TERM: 209534-71-4
ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(nucleotide sequence, estrogen response element segment for human c-fos gene; immunoassays for functional nuclear receptors)

INDEX TERM: 209534-70-3
ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(nucleotide sequence, estrogen response element segment for human oxytocin gene; immunoassays for functional nuclear receptors)

INDEX TERM: 209534-72-5
ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(nucleotide sequence, estrogen response element segment for human prolactin gene; immunoassays for functional nuclear receptors)

INDEX TERM: 209619-55-6P
ROLE: ARG (Analytical reagent use); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(nucleotide sequence, estrogen response element segment; immunoassays for functional nuclear receptors)

INDEX TERM: 177022-07-0 177022-07-0D, dimers or trimers or tetramers
206335-59-3, GenBank I72386
ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(nucleotide sequence, estrogen response element segment; immunoassays for functional nuclear receptors)

INDEX TERM: 206335-61-7, GenBank I72388
ROLE: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP

(Properties); RCT (Reactant); THU (Therapeutic use); ANST
(Analytical study); BIOL (Biological study); PROC (Process);
RACT (Reactant or reagent); USES (Uses)
(nucleotide sequence, thyroid T3 response element
segment; immunoassays for functional nuclear receptors)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS
RECORD.

REFERENCE(S):

- (1) Abbott Laboratories; Abbott ER-EIA Monoclonal Brochure
83-5167/R5 1989
- (2) Abbott Laboratories; Abbott ER-ICA Monoclonal Brochure
83-5963/R8 1990
- (3) Abbott Laboratories; Abbott PgR-EIA Monoclonal Brochure
83-6024/R4 1990
- (4) Anolik; Biochemistry 1995, V34, P2511 HCAPLUS
- (5) Anolik; J Steroid Biochem Molec Biol 1993, V46(6), P713
HCAPLUS
- (6) Baniahmad; Journal of Cellular Biochemistry 1993, V51,
P151 HCAPLUS
- (7) Beato; Cell 1989, V56, P335 HCAPLUS
- (8) Benz; US 5292638 1994 HCAPLUS
- (9) Benz; Clinical Research 1990, V38(2), P311A
- (10) Clark; US 5605665 1997
- (11) Greene; US 4742000 1988 HCAPLUS
- (12) Jensen; US 4232001 1980 HCAPLUS
- (13) Jensen; US 4293536 1981 HCAPLUS
- (14) Kolberg; US 5407795 1995 HCAPLUS
- (15) Lee; US 4215102 1980 HCAPLUS
- (16) Spelsberg; US 4711856 1987 HCAPLUS
- (17) Urdea; US 5124246 1992 HCAPLUS

L120 ANSWER 7 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:888028 HCAPLUS

DOCUMENT NUMBER: 123:286403

ENTRY DATE: Entered STN: 01 Nov 1995

TITLE: Preparation of 1-hydroxy vitamin D
analogs

INVENTOR(S): Kato, Toyoya

PATENT ASSIGNEE(S): Nippon Rimefu Kk, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

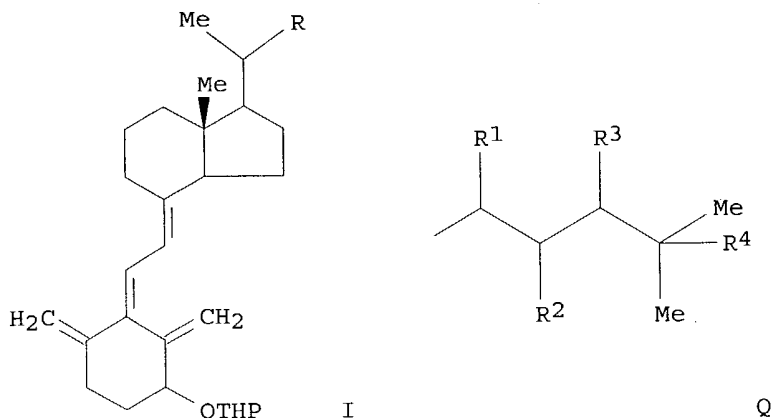
INT. PATENT CLASSIF.:
MAIN: C07C401-00

CLASSIFICATION: 32-7 (Steroids)

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07196604	A2	19950801	JP 1993-353991	19931231
PRIORITY APPLN. INFO.:			JP 1993-353991	19931231
PATENT CLASSIFICATION CODES:				
PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES		
JP 07196604	ICM	C07C401-00		
OTHER SOURCE(S): CASREACT 123:286403; MARPAT 123:286403				
GRAPHIC IMAGE:				



ABSTRACT:

The title compds. [I; $\text{R} = (\text{un})\text{protected hydroxymethyl}$, hydrocarbylsulfonyloxyalkyl, Q; $\text{R}^1\text{-R}^4 = \text{-H}$, $(\text{un})\text{protected OH}$; with provisos] are prepared. Thus, SO_2 was passed into a solution of **vitamin D3** in benzene- H_2O for 3 h to give a **vitamin D3-SO2** adduct, which was treated with dihydropyran in H_2O containing 4-MeC₆H₄SO₃H at room temperature for 40 min to give an adduct of 3-**tetrahydropyranyloxyvitamin D3**, whose solution in MeOH containing NaHCO₃ was refluxed 1.5 h to give 3-tetrahydropyranyloxy-5,6-trans-**vitamin D3**. This in ethylene dichloride- CH_2Cl_2 -MeCN containing selenious acid was refluxed with N-methylmorpholine N-oxide for 1 h to give the title compound 1 α -hydroxy-3-tetrahydropyranyloxy-5,6-trans- **vitamin D3**.

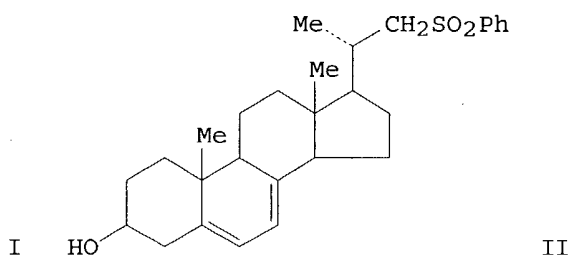
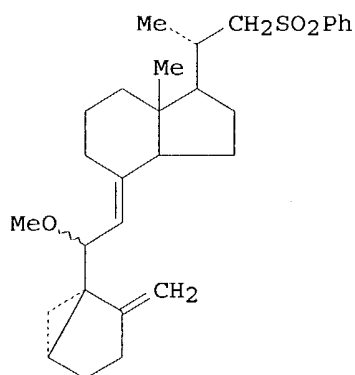
SUPPL. TERM: **vitamin D analog**
 INDEX TERM: 1406-16-2P, **Vitamin D**
 ROLE: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (1-hydroxy; preparation of hydroxy **vitamin D** analogs)

INDEX TERM: 2579-08-0P 83916-90-9P 87649-53-4P 169553-41-7P
 169553-42-8P 169553-43-9P 169553-44-0P 169553-45-1P
 169553-47-3P 169553-48-4P 169553-49-5P 169737-22-8DP,
 adducts with 1,4-**phthalazinedione** 169737-23-9P
 169737-24-0P 169737-25-1P 169737-26-2P 169737-27-3P
 ROLE: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of hydroxy **vitamin D** analogs)

INDEX TERM: 32222-06-3P 41294-56-8P 169553-46-2P 169737-21-7P
 ROLE: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (preparation of hydroxy **vitamin D** analogs)

INDEX TERM: 50-14-6, **Vitamin D2** 67-97-0, **Vitamin D3**
 110-87-2, Dihydropyran 1445-69-8, Phthalhydrazide
 87417-16-1 169553-50-8
 ROLE: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of hydroxy **vitamin D** analogs)

L120 ANSWER 8 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1992:129368 HCAPLUS
 DOCUMENT NUMBER: 116:129368
 ENTRY DATE: Entered STN: 03 Apr 1992
 TITLE: Synthesis of (24R)-24,25-dihydroxyvitamin
 D3
 AUTHOR(S): Bogoslovskii, N. A.; Samokhvalova, N. G.; Isaeva, T.
 A.; Valashek, I. E.; Filippova, T. M.; Kharchevnikov,
 A. P.
 CORPORATE SOURCE: Nauchno-Proizvod. Ob'edin. "Vitaminy", Moscow, USSR
 SOURCE: Zhurnal Organicheskoi Khimii (1990), 26(11), 2398-411
 CODEN: ZORKAE; ISSN: 0514-7492
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 CLASSIFICATION: 32-7 (Steroids)
 OTHER SOURCE(S): CASREACT 116:129368
 GRAPHIC IMAGE:



ABSTRACT:

Two new synthetic routes to the title compound from vitamin D2 or ergosterol via the bisnorsekocyclocholadienyl derivative I and hydroxybisnorcholadienyl Ph sulfone II key intermediates are presented.

SUPPL. TERM: **vitamin D3** dihydroxy asym synthesis;
dihydroxyvitamin D3 asym synthesis;
 sulfone hydroxybischoladienyl intermediate **vitamin D3**; bisnorsekocyclocholadienyl deriv intermediate **vitamin D3**
 INDEX TERM: 53159-98-1 98242-84-3
 ROLE: RCT (Reactant); RACT (Reactant or reagent)
 (cyclocondensation of, with sulfur dioxide)
 INDEX TERM: 7446-09-5, Sulfur dioxide, reactions
 ROLE: RCT (Reactant); RACT (Reactant or reagent)
 (cyclocondensation of, with vitamin D2 acetate)
 INDEX TERM: 20116-64-7P, 1,4-**Phthalazinedione**
 ROLE: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (formation and reaction of, with ergosterol acetate)
 INDEX TERM: 56192-94-0
 ROLE: RCT (Reactant); RACT (Reactant or reagent)
 (ozonization of)
 INDEX TERM: 136463-24-6P
 ROLE: SPN (Synthetic preparation); PREP (Preparation)

(preparation and conversion of, to methoxybisanisolekocyclohexadienol)

INDEX TERM: 136463-15-5P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation and conversion of, to sulfinate or sulfone)

INDEX TERM: 97903-28-1P 136521-94-3P 136521-95-4P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation and conversion of, to sulfone)

INDEX TERM: 136463-26-8P 136463-27-9P 136463-28-0P 136463-29-1P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and desulfonation of)

INDEX TERM: 136463-18-8P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and isomerization of)

INDEX TERM: 136463-32-6P 136463-33-7P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and methanolysis of)

INDEX TERM: 136463-19-9P 136463-20-2P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and ozonolysis of)

INDEX TERM: 136463-25-7P 136521-93-2P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with methylbutanetriol monotosylate)

INDEX TERM: 136463-17-7P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with methylbutenol oxide)

INDEX TERM: 136463-16-6P 136463-21-3P 136463-22-4P 136521-90-9P 136521-91-0P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reduction of)

INDEX TERM: 55700-54-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and ring opening of)

INDEX TERM: 136657-68-6P 136657-69-7P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and solvolysis of)

INDEX TERM: 97903-27-0P 136463-14-4P 136463-23-5P 136521-92-1P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and tosylation of)

INDEX TERM: 55700-55-5P 55700-57-7P 55721-11-4P 63840-62-0P 77517-58-9P 104729-36-4P 136463-30-4P 136463-31-5P 136521-87-4P 136521-88-5P 136521-89-6P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

INDEX TERM: 52373-72-5P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as methylbutanetriol monotosylate intermediate)

INDEX TERM: 56006-76-9P

ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation, epimerization and reduction of)

INDEX TERM: 1445-69-8

ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of thiazine dione derived from, with ergosterol acetate)

INDEX TERM: 116-11-0

ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with mannitol)

INDEX TERM: 69-65-8, D-Mannitol

ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with methoxypropene)

INDEX TERM: 19482-44-1 26097-28-9 77522-15-7

ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with steroid sulfone)

INDEX TERM: 2418-45-3, Ergosterol acetate

ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with thiazinedione)

L120 ANSWER 9 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1990:32979 HCAPLUS

DOCUMENT NUMBER: 112:32979

ENTRY DATE: Entered STN: 04 Feb 1990

TITLE: Bio- or chemiluminescence immunoassays using the interaction of markers or a marker and its inhibitor

INVENTOR(S): Andre, Jean Claude; Coudert, Gerard; Killian, Jean; Siest, Gerard

PATENT ASSIGNEE(S): Stabiligen S. A., Fr.

SOURCE: Fr. Demande, 13 pp.
CODEN: FRXXBL

DOCUMENT TYPE: Patent

LANGUAGE: French

INT. PATENT CLASSIF.:
MAIN: G01N033-542
SECONDARY: G01N021-76

CLASSIFICATION: 9-10 (Biochemical Methods)
Section cross-reference(s): 2

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2617974	A1	19890113	FR 1987-9631	19870707
FR 2617974	B1	19921113		

PRIORITY APPLN. INFO.: FR 1987-9631 19870707

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
FR 2617974	ICM	G01N033-542
	ICS	G01N021-76

ABSTRACT:

The presence or concentration of a substance in a biol. sample is determined in an immunoassay using its immunol. partner labeled with a 1st bio- or chemiluminescent (anti)marker and a 2nd marker or antimarker which forms a luminescent pair with the 1st (anti)marker. Progesterone was determined by a competitive assay using progesterone conjugated to aminobutylethylisoluminol (ABEI) and anti-progesterone antibody conjugated to fluorescein. The liaison between the labeled antigen and antibody resulted in a transfer of energy from ABEI to fluorescein, manifested by a displacement of the signal 460 nm/525 nm. Progesterone in the sample inhibited this displacement in proportion to its

concentration

SUPPL. TERM: immunoassay bioluminescence chemiluminescence; progesterone
chemiluminescence immunoassay

INDEX TERM: Antibodies
ROLE: ANST (Analytical study)
(conjugates with bio- or chemiluminescent label, in
immunoassay using label pair interactions)

INDEX TERM: Proteins, analysis
Vitamins
ROLE: ANT (Analyte); ANST (Analytical study)
(determination of, by bio- or chemiluminescence immunoassay)

INDEX TERM: Energy transfer
Luminescence quenching
Luciferins
ROLE: USES (Uses)
(in bio- or chemiluminescence immunoassay)

INDEX TERM: Hydroperoxides
ROLE: USES (Uses)
(acyl, in bio- or chemiluminescence immunoassay)

INDEX TERM: Immunochemical analysis
(bioluminescence immunoassay, label pairs or
antilabel-label pair interactions in)

INDEX TERM: Coordination compounds
ROLE: ANST (Analytical study)
(chelates, in bio- or chemiluminescence immunoassay)

INDEX TERM: Immunochemical analysis
(chemiluminescence immunoassay, label pairs or
antilabel-label pair interactions in)

INDEX TERM: Porphyrins
ROLE: USES (Uses)
(complexes, in bio- or chemiluminescence immunoassay)

INDEX TERM: Elements
ROLE: ANST (Analytical study)
(heavy, as luminescence quenchers in bio- or
chemiluminescence immunoassays)

INDEX TERM: Antibodies
ROLE: ANST (Analytical study)
(monoclonal, conjugates with bio- or chemiluminescent
label, in immunoassay using label pair interactions)

INDEX TERM: Esters, uses and miscellaneous
ROLE: USES (Uses)
(peroxy, in bio- or chemiluminescence immunoassay)

INDEX TERM: 7439-92-1, Lead, uses and miscellaneous 7439-97-6,
Mercury, uses and miscellaneous 7553-56-2, Iodine, uses
and miscellaneous 7726-95-6, Bromine, uses and
miscellaneous
ROLE: USES (Uses)
(as luminescence quencher in bio- or chemiluminescence
immunoassays)

INDEX TERM: 57-27-2, Morphine, analysis 57-83-0, Progesterone,
analysis 60-92-4, CAMP
ROLE: ANT (Analyte); ANST (Analytical study)
(determination of, by competitive chemiluminescence
immunoassay)

INDEX TERM: 484-47-9D, 2,4,5-Triphenylimidazole, derivs. 521-31-3,
Luminol 574-93-6D, Phthalocyanine, metal chelates
1445-69-8D, 2,3-Dihydro-1,4-phthalazinedione, derivs.
3295-68-9D, 9,9'-Biacridine, salts, derivs. 7439-89-6D,
Iron, chelates 7440-66-6D, Zinc, chelates 9003-99-0,

Peroxidase 14380-61-1, Hypochlorite 124589-90-8D,
derivs. 7722-84-1, Hydrogen peroxide, uses and
miscellaneous

ROLE: ANST (Analytical study)

(in bio- or chemiluminescence immunoassay)

INDEX TERM:

57-27-2D, Morphine, fluorescein conjugates 57-83-0D,
Progesterone, aminobutylethylisoluminol conjugates
60-92-4D, CAMP; aminobutylethylisoluminol conjugates
2321-07-5D, Fluorescein, antibody conjugates 13558-31-1
66612-29-1D, Aminobutylethylisoluminol, progesterone
conjugates

ROLE: ANST (Analytical study)

(in competitive chemiluminescence immunoassay using label
pair interactions)

L120 ANSWER 10 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1990:213569 HCAPLUS

DOCUMENT NUMBER: 112:213569

ENTRY DATE: Entered STN: 09 Jun 1990

TITLE: Tridentate conjugates for competitive immunoassays

INVENTOR(S): Oh, Chan S.; Sternberg, James C.

PATENT ASSIGNEE(S): Beckman Instruments, Inc., USA

SOURCE: Eur. Pat. Appl., 40 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

INT. PATENT CLASSIF.:

MAIN: G01N033-531

SECONDARY: G01N033-94; G01N033-532

CLASSIFICATION: 9-10 (Biochemical Methods)

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 310361	A2	19890405	EP 1988-309002	19880929
EP 310361	A3	19890524		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
WO 8903041	A2	19890406	WO 1988-US3368	19880930
WO 8903041	A3	19890420		
W: AU, JP				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
AU 8826056	A1	19890418	AU 1988-26056	19880930
AU 623352	B2	19920514		
US 5168057	A	19921201	US 1991-768118	19910930
JP 06222058	A2	19940812	JP 1992-225325	19920731
JP 2627124	B2	19970702		
US 5661019	A	19970826	US 1995-410014	19950322
US 5851778	A	19981222	US 1997-832143	19970402
PRIORITY APPLN. INFO.:			US 1987-103093	A 19870930
			WO 1988-US3368	A 19880930
			US 1991-768118	A3 19910930
			US 1992-911827	B1 19920710
			US 1995-410014	A3 19950322

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 310361	ICM	G01N033-531
	ICS	G01N033-94; G01N033-532
US 5661019	ECLA	G01N033/531; G01N033/532; G01N033/539; G01N033/543D;

G01N033/94

ABSTRACT:

A tridentate conjugate for competitive immunoassays has 3 chemical moieties, or tridentate members, attached through an appropriate spacer moiety. At least 2 of the tridentate members are relatively small mols. (e.g. ligands, haptens), usually .ltorsim.7000 daltons. The particular appropriate spacer moiety selected for a tridentate imparts certain steric properties to the tridentate conjugate. In 1 embodiment, the binding of a macromol. specific binding partner to one of the tridentate members sterically inhibits the binding of a different macromol. to another tridentate member. In another embodiment, the binding of a 1st tridentate member to a macromol. restricts the subsequent binding of a 2nd tridentate member to a proximate location on the same macromol. Thus, a biotin-theophylline-lysine conjugate (preparation described) was reacted with DNP-bis(aminocaproic acid) N-hydroxysuccinimide ester (preparation described) to form a biotin-theophylline-DNP conjugate. Theophylline amine (I) was determined in a nephelometric inhibition immunoassay by mixing the conjugate with anti-theophylline monoclonal antibody, anti-DNP antibody, avidin, and samples containing the analyte. Free I competed with theophylline in the conjugate for the anti-theophylline monoclonal antibody. Increasing concns. of I resulted in an increased nephelometric signal.

SUPPL. TERM: hapten tridentate conjugate competitive immunoassay; biotin theophylline dinitrophenol conjugate immunoassay

INDEX TERM: Fluorescent substances
 (conjugates with haptens and macromols., tridentate, for competitive immunoassays)

INDEX TERM: Antidepressants
 (determination of, by competitive immunoassay, tridentate conjugates for)

INDEX TERM: Haptens
 Hormones
 Proteins, analysis
 Vitamins

 ROLE: ANT (Analyte); ANST (Analytical study)
 (determination of, by competitive immunoassay, tridentate conjugates for)

INDEX TERM: Macromolecular compounds
 ROLE: ANT (Analyte); ANST (Analytical study)
 (determination of, tridentate conjugates for)

INDEX TERM: Antibodies
 ROLE: SPN (Synthetic preparation); PREP (Preparation)
 (to dinitrophenol, conjugates with fluorescein, preparation of, for competitive immunoassays)

INDEX TERM: Azides
 ROLE: ANST (Analytical study)
 (tridentate conjugates containing, for competitive immunoassays)

INDEX TERM: Pharmaceutical analysis
 (tridentate hapten conjugates in, by competitive immunoassay)

INDEX TERM: Luminescent substances
 (chemi-, conjugates with haptens and macromols., tridentate, for competitive immunoassays)

INDEX TERM: Immunochemical analysis
 (chemiluminescence energy-transfer immunoassay, tridentate conjugates for, preparation of)

INDEX TERM: Rare earth metals, compounds
 ROLE: ANST (Analytical study)
 (complexes, fluorescent proximity label, tridentate conjugates containing, for competitive immunoassays)

INDEX TERM: Porphyrins
 ROLE: ANST (Analytical study)
 (complexes, with tin or zinc, tridentate conjugates, for competitive immunoassays)

INDEX TERM: Ligands
 ROLE: ANST (Analytical study)
 (conjugated, tridentate, for competitive immunoassays)

INDEX TERM: Enzymes
 ROLE: ANST (Analytical study)
 (conjugates, with haptens and macromols., tridentate, for competitive immunoassays)

INDEX TERM: Proteins, specific or class
 ROLE: ANST (Analytical study)
 (conjugates, with haptens, tridentate, for competitive immunoassays)

INDEX TERM: Immunochemical analysis
 (nephelometric inhibition immunoassay, tridentate conjugates for, preparation of)

INDEX TERM: Nucleotides, polymers
 ROLE: ANT (Analyte); ANST (Analytical study)
 (oligo-, determination of, by competitive immunoassay, tridentate conjugates for)

INDEX TERM: Nucleotides, polymers
 ROLE: ANST (Analytical study)
 (oligo-, conjugates, with haptens, tridentate, for competitive immunoassays)

INDEX TERM: Avidins
 ROLE: ANST (Analytical study)
 (succinylated, conjugates, with thiolated hexokinase, for competitive immunoassays)

INDEX TERM: 5438-71-1, Theophylline-8-butyric acid
 ROLE: RCT (Reactant); RACT (Reactant or reagent)
 (amination of, in conjugate preparation for competitive immunoassay)

INDEX TERM: 6332-90-7 125905-11-5
 ROLE: ANST (Analytical study)
 (as spacer for tridentate conjugates for competitive immunoassays)

INDEX TERM: 50-06-6, Phenobarbital, analysis 50-78-2, Acetylsalicylic acid 51-06-9, Procainamide 51-28-5, Dinitrophenol, analysis 56-54-2 56-75-7, Chloramphenicol 57-27-2, Morphine, analysis 57-41-0, Phenytoin 58-55-9, analysis 59-05-2, Methotrexate 76-57-3, Codeine 77-67-8, Ethosuximide 88-74-4D, 2-Nitroaniline, derivs. 99-66-1, Valproic acid 103-90-2 125-33-7, Primidone 137-58-6, Lidocaine 525-66-6 554-84-7D, derivs. 561-27-3 1403-66-3, Gentamycin 3737-09-5, Disopyramide 8063-07-8, Kanamycin 19410-53-8 20830-75-5, Digoxin 32986-56-4, Tobramycin 56391-56-1
 ROLE: ANT (Analyte); ANST (Analytical study)
 (determination of, by competitive immunoassay)

INDEX TERM: 81-88-9D, tridentate conjugates with haptens and macromols. 98-80-6D, Phenyl boronic acid, tridentate conjugates with haptens and macromols. 1445-69-8D, tridentate conjugates with haptens and macromols. 2321-07-5D, Fluorescein, tridentate conjugates with haptens and macromols. 7440-31-5D, Tin, protoporphyrin complexes, tridentate conjugates with haptens and macromols. 7440-66-6D, Zinc, protoporphyrin complexes, tridentate conjugates with haptens

and macromols. 9003-99-0D, Peroxidase, tridentate conjugates with haptens and macromols. 109392-90-7D, tridentate conjugates with haptens and macromols. 9001-37-0D, Glucose oxidase, tridentate conjugates with haptens and macromols. 9001-40-5D, Glucose-6-phosphate dehydrogenase, tridentate conjugates with haptens and macromols. 9001-51-8D, Hexokinase, tridentate conjugates with haptens and macromols.

ROLE: ANST (Analytical study)
(for competitive immunoassays)

INDEX TERM: 54718-62-6P 125884-01-7P 125905-09-1P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, in conjugate preparation for competitive immunoassay)

INDEX TERM: 125884-02-8P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, in conjugate preparation for competitive immunoassays)

INDEX TERM: 125884-03-9P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

INDEX TERM: 9001-51-8DP, Hexokinase, thiolated, conjugates with succinylavidin 27072-45-3DP, Fluorescein isothiocyanate, antibody conjugates 66612-29-1DP, isothiocyanate derivs., avidin conjugates 127067-75-8P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, for competitive immunoassays)

INDEX TERM: 125884-04-0P 126379-67-7P 126454-98-6P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, in conjugate preparation for competitive immunoassay)

INDEX TERM: 126251-22-7P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, in conjugate preparation for competitive immunoassays)

INDEX TERM: 1155-64-2
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with biotin succinimide ester)

INDEX TERM: 14251-32-2
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with biotinylcarbobenzoxylysine)

INDEX TERM: 70-34-8, 2,4-Dinitrofluorobenzene
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with bis(aminocaproate))

INDEX TERM: 124-09-4, 1,6-Hexanediamine, reactions
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with bromotheophylline)

INDEX TERM: 2014-58-6
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dinitrofluorobenzene)

INDEX TERM: 10381-75-6, 8-Bromotheophylline
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hexanediamine)

INDEX TERM: 35013-72-0, Biotin N-hydroxysuccinimide ester
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with theophylline derivative in conjugate preparation for competitive immunoassay)

INDEX TERM: 125905-10-4

ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with theophyllineaminoethylamine in
conjugate preparation for competitive immunoassay)

L120 ANSWER 11 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1989:423784 HCAPLUS

DOCUMENT NUMBER: 111:23784

ENTRY DATE: Entered STN: 21 Jul 1989

TITLE: An improved synthesis of (24R)-3 β -(2H-
tetrahydropyran-2-yloxy)cholesta-5,7-diene-24,25-diol
- a key intermediate in the synthesis of (24R)-24,25-
dihydroxyvitamin D3

AUTHOR(S): Schroetter, E.; Landmann, Elfi; Schick, H.;
Schoenecker, B.; Hauschild, U.; Droscher, P.

CORPORATE SOURCE: Cent. Inst. Org. Chem., Acad. Sci. GDR, Berlin,
DDR-1199, Fed. Rep. Ger.

SOURCE: Journal fuer Praktische Chemie (Leipzig) (1988),
330(4), 501-9
CODEN: JPCEAO; ISSN: 0021-8383

DOCUMENT TYPE: Journal

LANGUAGE: English

CLASSIFICATION: 32-7 (Steroids)

OTHER SOURCE(S): CASREACT 111:23784

ABSTRACT:

A multistep procedure for the conversion of ergosterol into the
tetrahydropyranyl ether of (24R)-24,25-**dihydroxyprovitamin D3**
using 1,4-**dihydrophthalazine**-1,4-dione as diene protecting agent was
compared with an established route, which uses 4-phenyl-1,2,4-triazoline-3,5-
dione for the protection of the diene system. The disclosed reaction sequence
allows to double the overall yield. The 1,4-dioxo-1,2,3,4-
tetrahydrophthalazin -2,3-ylene group proved to be the better diene
protecting group in the ozonolytic degradation of the ergosterol side chain.
Maintaining the protecting group in the next reaction steps offered further
advantages by diminishing the air and light sensitivity of the intermediates.

SUPPL. TERM: tetrahydropyranyloxycholestadienediol; cholestadienediol
tetrahydropyranyloxy; **vitamin D3**
dihydroxy intermediate

INDEX TERM: 116653-43-1P

ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and bromination of)

INDEX TERM: 121262-48-4P

ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation and cleavage of **dihydrophthalazinedione**
from)

INDEX TERM: 116653-44-2P

ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with (hydroxypropyl)oxirane)

INDEX TERM: 77517-58-9P

ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with dihydroxymethylbutyl
tosylate)

INDEX TERM: 121262-47-3P

ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with sodium benzenesulfonate)

INDEX TERM: 77517-60-3P

ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reductive elimination reaction of)

INDEX TERM: 121262-49-5P 121262-50-8P

ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

INDEX TERM: 55721-11-4, (24R)-24,25-Dihydroxyvitamin
D3

ROLE: RCT (Reactant); RACT (Reactant or reagent)
(preparation of cholestadienediol derivative as key
intermediate
for)

INDEX TERM: 82311-22-6P

ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as key intermediate in synthesis of
dihydroxyvitamin D3)

INDEX TERM: 77522-15-7

ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (phenylsulfonyl)bisnorcholadiene)

INDEX TERM: 77517-59-0

ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (phenylsulfonyl)bisnorcholene derivative)

INDEX TERM: 515-42-4, Sodium benzenesulfonate

ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with bromobisnorcholene derivative)

INDEX TERM: 114585-94-3

ROLE: RCT (Reactant); RACT (Reactant or reagent)
(sulfonylation of, with sulfonyl chlorides)

L120 ANSWER 12 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1988:549867 HCAPLUS

DOCUMENT NUMBER: 109:149867

ENTRY DATE: Entered STN: 28 Oct 1988

TITLE: Procedure for the preparation of aryl
3 β -hydroxy-23,24-bisnorchola-5,7-dien-22-yl
sulfone derivatives and their use as intermediates for
steroids, especially provitamin D
derivatives

INVENTOR(S): Schroetter, Eberhard; Landmann, Elfi; Schick, Hans;
Schoenecker, Bruno; Hauschild, Ulrich

PATENT ASSIGNEE(S): Akademie der Wissenschaften der DDR, Ger. Dem. Rep.

SOURCE: Ger. (East), 7 pp.

CODEN: GEXXA8

DOCUMENT TYPE: Patent

LANGUAGE: German

INT. PATENT CLASSIF.:

MAIN: C07J031-00

SECONDARY: C07J009-00; C07J075-00

CLASSIFICATION: 32-6 (Steroids)

Section cross-reference(s): 26

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DD 247008	A1	19870624	DD 1986-287293	19860224
PRIORITY APPLN. INFO.:			DD 1986-287293	19860224

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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DD 247008 ICM C07J031-00
ICS C07J009-00; C07J075-00

GRAPHIC IMAGE:

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

ABSTRACT:

A procedure was described for the preparation of bisnorcholadienyl sulfones I (R1 = H, alkyl, alkoxyalkyl, e.g. MeOCH₂, MeOCH₂CH₂OCH₂, cyclic ether groups, e.g. tetrahydropyranyl, acyl, e.g. Ac, Cl₃CCO, Me₃CCO, Bz, naphthoyl, silyl groups, e.g. Me₃Si, Me₃CSiMe₂; R2 = aryl, especially Ph, 4-MeC₆H₄, naphthyl), useful as intermediates for side-chain modified steroids, especially **provitamin D** derivs. (no data). Ozonolysis of 5 α ,8 α -(1,4-dioxophthalazin-2,3-ylene)cholestadiene II (R1 = tetrahydropyran-2-yl) and subsequent NaBH₄ reduction gave 71.6% the corresponding 23,24-bisnorchol-6-ene analog which was tosylated to give 83.8% the 22-O-tosyl derivative. This was treated with a mixture of LiBr, Li₂CO₃, and DMF and after 2.5 h at 78-82°, with PhSO₂Na to give 50.9% the 22-SO₂Ph analog. Deprotection with LiAlH₄, then NaOH, gave 60.3% I (R1 = tetrahydropyran-2-yl, R2 = Ph).

SUPPL. TERM: aryl bisnorcholadienyl sulfone **provitamin D** intermediate
INDEX TERM: Steroids, preparation
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aryl hydroxybisnorcholadienyl sulfones as intermediates for **provitamin D** derivs.)
INDEX TERM: 98-59-9, 4-Methylbenzenesulfonyl chloride
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(acylation by, of hydroxybisnorcholene derivs.)
INDEX TERM: 9061-77-2D, **Provitamin D**, derivs.
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(intermediate for, aryl hydroxybisnorcholadienyl sulfone derivs. as)
INDEX TERM: 81126-45-6 110022-71-4
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(ozonolysis of)
INDEX TERM: 116653-44-2P 116653-47-5P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and deprotection of)
INDEX TERM: 116653-43-1P 116653-46-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with sodium benzenesulfinate)
INDEX TERM: 114585-94-3P 116653-45-3P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and tosylation of)
INDEX TERM: 77517-58-9P 104729-36-4P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as **provitamin D** intermediate)
INDEX TERM: 873-55-2, Sodium benzenesulfinate
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with bisnorcholenyl tosylates)

L120 ANSWER 13 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1986:627135 HCAPLUS
DOCUMENT NUMBER: 105:227135
ENTRY DATE: Entered STN: 26 Dec 1986
TITLE: Synthesis of 25-hydroxy- and 1 α ,25-dihydroxy
vitamin D3 from vitamin D2
(calciferol)
AUTHOR(S): Andrews, David R.; Barton, Derek H. R.; Hesse, Robert
H.; Pechet, Maurice M.
CORPORATE SOURCE: Res. Inst. Med. Chem., Cambridge, MA, 02142, USA
SOURCE: Journal of Organic Chemistry (1986), 51(25), 4819-28
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 32-7 (Steroids)
OTHER SOURCE(S): CASREACT 105:227135
GRAPHIC IMAGE:

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

ABSTRACT:

Efficient procedures for the protection and deprotection of the triene system of vitamin D2 were developed and applied to the synthesis of 25-
hydroxyvitamin D3 (I, R = H) and 1 α ,25-
dihydroxyvitamin D3 (I, R = OH). Thus, **phthalazine**
-1,4-dione was treated with calciferol acetate (II) to give phthalhydrazido
derivative III (R1 = Ac, R2 = Me, R3 = H) (IV) and its 6 α -epimer. IV was
oxidized by ozone/oxygen to give aldehyde V, which underwent the Wittig
reaction with Ph3P+CH2CH2CMe2OTES BPh4- (Tes = SiEt3) to give III (R1 = Ac, R2 =
H, R3 = OTES), which was desilylated by AcOH/H2O/THF (8:1:1) to give III (R1 =
Ac, R2 = H, R3 = OH). The latter was hydrogenated over Pt/C and then
deacetylated by NaOH/MeOH to give the 22,23-dehydro derivative of III (R1 = R2 = H,
R3 = OH), which was cleaved by hydrazine and dianisyl telluroxide/BrCCl2CCl2Br
in a 2-phase system of aqueous K2CO3 and CH2Cl2 to give 9,10-**seccholesta**
-5(E),7(E),10(19)-triene VI (R4 = OH). The latter underwent photochem.
isomerization in the presence of anthracene to give I (R = H). I (R = OH) was
obtained via an allylic hydroxylation of 9,10-secopregna-5(E),7(E),10(19)-
triene VII (Ts = tosyl, R4 = TES).

SUPPL. TERM: **hydroxyvitamin D3; vitamin**
D3 hydroxy dihydroxy; calciferol conversion
hydroxyvitamin D3
INDEX TERM: 9,10-Secosteroids
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of 25-hydroxy- and 1-25-**dihydroxyvitamin**
D3 from vitamin D2)
INDEX TERM: 87417-12-7
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Grignard reaction of, with [(tosyloxy)methyl]secopregnat
riene derivative)
INDEX TERM: 104849-54-9
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Wittic reaction of, with steroidal aldehyde)
INDEX TERM: 99-33-2
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with dihydroxycholestatatriene)
INDEX TERM: 1445-69-8 1875-48-5

ROLE: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of)
INDEX TERM: 104973-29-7P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and Wittig reaction of)
INDEX TERM: 67883-18-5P 87417-16-1P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and Wittig reaction of, with steroidal aldehyde)
INDEX TERM: 87417-17-2P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation and conversion of, to tetraphenylborate salt)
INDEX TERM: 104973-32-2P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and dehydrogenation-deacetylation of)
INDEX TERM: 104875-13-0P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and desilylation of)
INDEX TERM: 87680-62-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and hydride reduction of)
INDEX TERM: 87417-00-3P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and hydrogenation of)
INDEX TERM: 104973-33-3P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and oxidative ring cleavage of)
INDEX TERM: 87480-21-5P 87680-61-3P 104973-28-6P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and ozonolysis of)
INDEX TERM: 104973-27-5P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and partial ring cleavage of)
INDEX TERM: 36149-00-5P 87407-67-8P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and photochem. isomerization of)
INDEX TERM: 20116-64-7P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with calciferol acetate)
INDEX TERM: 87680-63-5P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation and sulfur dioxide cleavage of)
INDEX TERM: 87407-52-1P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and tosylation of)
INDEX TERM: 87680-65-7P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and triethylsilylation of)

INDEX TERM: 2568-33-4P 51744-66-2P 87417-20-7P 104849-48-1P
104849-49-2P 104849-50-5P 104849-52-7P 104973-30-0P
104973-31-1P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

INDEX TERM: 87417-31-0P 87680-64-6P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as intermediate for **dihydroxyvitamin D3**)

INDEX TERM: 87407-65-6P 104849-51-6P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as intermediate for **hydroxyvitamin D3**)

INDEX TERM: **19356-17-3P** 32222-06-3P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from calciferol)

INDEX TERM: 4233-33-4
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with ergocalciferol)

INDEX TERM: 1779-49-3
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with isobutylene epoxide and steroidal aldehyde)

INDEX TERM: 558-30-5
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with methyltriphenylphosphonium bromide)

INDEX TERM: 50-14-6 2579-08-0
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenyltriazolinedione)

INDEX TERM: 994-30-9
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(silylation by, of calciferol derivs.)

INDEX TERM: 98-59-9
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(tosylation by, of (hydroxymethyl)secopregnatriene derivative)

L120 ANSWER 14 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1983:576164 HCAPLUS

DOCUMENT NUMBER: 99:176164

ENTRY DATE: Entered STN: 12 May 1984

TITLE: Intermediates in the synthesis of **vitamin D** derivatives

INVENTOR(S): Hesse, Robert Henry

PATENT ASSIGNEE(S): Research Institute for Medicine and Chemistry, Inc.,
USA

SOURCE: Eur. Pat. Appl., 75 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

INT. PATENT CLASSIF.: C07D487-04; C07C043-178; C07C091-15; C07C103-38;

C07C147-14; C07C149-26; C07C172-00; C07D333-72

C07D487-04, C07D237-00, C07D249-00; C07D487-04,

C07D237-00

CLASSIFICATION: 32-7 (Steroids)

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 78704	A1	19830511	EP 1982-305821	19821102
EP 78704	B1	19870429		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 58126861	A2	19830728	JP 1982-191955	19821102
JP 02024268	B4	19900529		
GB 2114570	A1	19830824	GB 1982-31299	19821102
GB 2114570	B2	19850807		
ZA 8208012	A	19830928	ZA 1982-8012	19821102
ZA 8208011	A	19840125	ZA 1982-8011	19821102
CA 1204752	A1	19860520	CA 1982-414661	19821102
IL 67153	A1	19861231	IL 1982-67153	19821102
AT 26838	E	19870515	AT 1982-305821	19821102
US 4554105	A	19851119	US 1984-648309	19840907
US 4772433	A	19880920	US 1986-827553	19860210
JP 02000163	A2	19900105	JP 1989-109265	19890501
JP 05067627	B4	19930927		

PRIORITY APPLN. INFO.:

	GB 1981-33018	A	19811102
	GB 1981-33019	A	19811102
	GB 1981-33021	A	19811102
	EP 1982-305821	A	19821102
	US 1982-438603	A1	19821102
	US 1982-438604	A1	19821102
	US 1984-568620	A1	19840106
	US 1984-568891	A1	19840106
	US 1984-650891	A1	19840917

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES		
EP 78704	IC	C07D487-04IC	C07C043-178IC	C07C091-15IC
		C07C103-38IC	C07C147-14IC	C07C149-26IC
		C07C172-00IC	C07D333-72	
	ICI	C07D487-04, C07D237-00, C07D249-00; C07D487-04, C07D237-00		

GRAPHIC IMAGE:

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

ABSTRACT:

Secosteroid cycloadducts I [R = H, protecting group; X = dienophile moiety; R1 = halo, hydrocarbonylsulfonyloxy, X1R4 (X1 = O, S, SO, NR5, CR5R6; R4, R5, R6 = H, alkyl); R2 = H; R1R2 = O, alkylidene; R3 = H, protected HO] were prepared from ergosterol as intermediates in the synthesis of **vitamin D** analogs. Thus, cyclization of ergosterol acetate and **phthalazine** -1,4-dione gave adduct II, which underwent successive ozonolysis, reduction, and tosylation to give tosylate III. Substitution reaction of III with HSCH2CMe2OH followed by removal of the **phthalazine** blocking group by hydrazinolysis and treatment with dianisyltellurium oxide-K2CO3 gave thiacholestatriene IV.

SUPPL. TERM: **vitamin D** intermediate;
phthalazinedione adduct ergocalciferol; sulfur dioxide cycloadduct ergocalciferol

INDEX TERM: 9,10-Secosteroids
 ROLE: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, ergocalciferol cycloadducts with **phthalazinedione** and sulfur dioxide as intermediates in)

INDEX TERM: 74-83-9, reactions
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Grignard reaction of, with Et bromopropionate)

INDEX TERM: 539-74-2 623-51-8
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Grignard reaction of, with Me bromide)

INDEX TERM: 1779-49-3
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Wittig reaction of, with formylpregnadiene)

INDEX TERM: 7446-09-5, reactions
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(cycloaddn. of, with ergocalciferol)

INDEX TERM: 20116-64-7
ROLE: PROC (Process)
(cycloaddn. of, with ergocalciferol acetate)

INDEX TERM: 4233-33-4
ROLE: PROC (Process)
(cycloaddn. of, with ergocalciferols)

INDEX TERM: 50-14-6 2579-08-0
ROLE: PROC (Process)
(cycloaddn. of, with phenyltriazolinedione)

INDEX TERM: 563-47-3
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(hydration of)

INDEX TERM: 87407-72-5P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and Grignard reaction of, with
(tosyloxymethyl)pregnane derivative)

INDEX TERM: 87417-14-9P 87417-16-1P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and Wittig reaction of, with formylpregnane
derivative)

INDEX TERM: 87407-70-3P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and acetylation of)

INDEX TERM: 87417-17-2P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation and anion exchange of)

INDEX TERM: 558-30-5P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation and condensation of, with butyldiphenylphosphene
oxide derivative)

INDEX TERM: 87417-24-1P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation and cycloaddn. of, with **phthalazinedione**
)

INDEX TERM: 558-42-9P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and cyclocondensation of)

INDEX TERM: 87417-08-1P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and deblocking and tosylation of)

INDEX TERM: 87407-54-3P 87407-57-6P 87417-10-5P 87417-19-4P
87417-30-9P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)
(preparation and deblocking of)

INDEX TERM: 87407-61-2P 87407-64-5P 87407-67-8P 87407-69-0P
87417-29-6P 87436-44-0P 87436-45-1P 87480-23-7P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and desilylation of)

INDEX TERM: 87407-65-6P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and desilylation-fluorination of)

INDEX TERM: 87407-62-3P 87417-23-0P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and hydroxylation of)

INDEX TERM: 87407-45-2P 87407-46-3P 87416-97-5P 87417-02-5P
87417-03-6P 87417-04-7P 87417-26-3P 87417-27-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and ozonolysis of)

INDEX TERM: 36149-00-5P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and photochem. isomerization of)

INDEX TERM: 2129-89-7P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with isobutylene oxide)

INDEX TERM: 87417-01-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and reactions of)

INDEX TERM: 87417-05-8P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and reduction and Wittig reactions of)

INDEX TERM: 87407-47-4P 87407-48-5P 87417-06-9P 87422-13-7P
87422-14-8P 87436-42-8P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and reduction of)

INDEX TERM: 87407-49-6P 87407-50-9P 87422-15-9P 87422-16-0P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation and ring cleavage-sulfur dioxide extrusion of)

INDEX TERM: 87417-00-3P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and saponification of)

INDEX TERM: 35979-69-2P 67883-18-5P 87407-55-4P 87407-73-6P
87417-22-9P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and silylation of)

INDEX TERM: 2854-16-2P 14967-17-0P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and substitution reaction of, with
(tosyloxymethyl)pregnane derivative)

INDEX TERM: 87417-12-7P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)
(preparation and substitution reaction of, with
triphenylphosphine)

INDEX TERM: 87417-28-5P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and substitution reactions of)

INDEX TERM: 87417-13-8P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation and tetrahydropyranylation of)

INDEX TERM: 1530-34-3P 19356-17-3P 27943-46-0P 32222-06-3P
54573-75-0P 74007-20-8P 84927-61-7P 87407-51-0P
87407-52-1P 87407-53-2P 87407-56-5P 87407-58-7P
87407-59-8P 87407-60-1P 87407-63-4P 87407-66-7P
87407-68-9P 87407-71-4P 87416-98-6P 87416-99-7P
87417-07-0P 87417-09-2P 87417-11-6P 87417-18-3P
87417-20-7P 87417-21-8P 87417-25-2P 87417-31-0P
87422-17-1P 87422-18-2P 87422-19-3P 87422-20-6P
87422-21-7P 87422-22-8P 87422-23-9P 87436-43-9P
87480-00-0P 87480-21-5P 87480-22-6P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

INDEX TERM: 75-86-5
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reduction of)

INDEX TERM: 51744-66-2
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(silylation of)

INDEX TERM: 115-19-5
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(tetrahydropyranylation of)

L120 ANSWER 15 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1982:177448 HCAPLUS
DOCUMENT NUMBER: 96:177448
ENTRY DATE: Entered STN: 12 May 1984
TITLE: Binding assays
INVENTOR(S): Collins, William Patrick; Barnard, Geoffrey John
Russel; Matson, Christine Mary
PATENT ASSIGNEE(S): National Research Development Corp., UK
SOURCE: Eur. Pat. Appl., 46 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.: G01N033-54; G01N033-76; G01N033-78; G01N033-94;
G01N033-74; G01N033-82
CLASSIFICATION: 9-2 (Biochemical Methods)
Section cross-reference(s): 1, 2, 15
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 44140	A1	19820120	EP 1981-302668	19810615
R: BE, CH, DE, FR, IT, NL				
DK 8102565	A	19811121	DK 1981-2565	19810612
JP 57030952	A2	19820219	JP 1981-91456	19810613
GB 2078370	A	19820106	GB 1981-18291	19810615
PRIORITY APPLN. INFO.:			GB 1980-19430	A 19800613

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES		
EP 44140	IC	G01N033-54IC	G01N033-76IC	G01N033-78IC
		G01N033-94IC	G01N033-74IC	G01N033-82

ABSTRACT:

Methods for liquid differentiation immunoassay (LIDIA) of e.g. drugs and hormones are described which can be automated and which replace the commonly used solid-phase separation technique with a simple liquid-liquid partition method. This separation method can be used in conjunction with RIA and luminescence or fluorescence immunoassays. Thus, for the determination of estradiol in blood plasma by

LIDIA, 200 µL plasma was extracted with Et₂O, and to the dried extract in tubes were added estradiol-3H (as label) and antibody to estradiol. After incubation at room temperature for 30 min, UDP-glucuronyl transferase and UDP-glucuronic acid were added and incubated at room temperature for 15 min. Then scintillation fluid (PPO in PhMe-EtOH) was added, and radioactivity was determined. In this procedure, free labeled hormone, after the binding reaction, reacts with enzyme in the presence of UDP-glucuronic acid to produce labeled water-soluble 17β-estradiol 3-glucuronide. When the hydrophobic scintillation fluid is added, the water-soluble conjugate is trapped in the aqueous phase, but the hydrophobic labeled hormone is released from the hormone-antibody complex and passes into the scintillation fluid for counting.

SUPPL. TERM: liq differentiation immunoassay; drug detn immunoassay;
hormone detn immunoassay; plasma estradiol immunoassay;
steroid hormone immunoassay

INDEX TERM: Estrogens
Progestogens
ROLE: ANT (Analyte); ANST (Analytical study)
(determination of, by liquid differentiation immunoassay)

INDEX TERM: Blood analysis
(drugs and hormones determination in, by liquid
differentiation
immunoassay)

INDEX TERM: Steroids, analysis
ROLE: ANST (Analytical study)
(hormones, determination of, by liquid differentiation
immunoassay)

INDEX TERM: Partition
(in liquid differentiation immunoassay)

INDEX TERM: Pharmaceutical analysis
Hormones
ROLE: ANST (Analytical study)
(liquid differentiation immunoassay for)

INDEX TERM: Prostaglandins
Receptors
Thyroid hormones
Vitamins
ROLE: ANST (Analytical study)
(liquid differentiation immunoassay for determination of)

INDEX TERM: Enzymes
ROLE: ANST (Analytical study)
(reagents containing, for liquid differentiation immunoassay
of
drugs and hormones)

INDEX TERM: Urine analysis
(steroid determination in, of human by liquid differentiation
immunoassay)

INDEX TERM: Immunochemical analysis
(liquid differentiation immunoassay, for drugs and hormones

and their metabolites)

INDEX TERM: 50-23-7 57-27-2, analysis 57-63-6 57-83-0, analysis
59-05-2 59-30-3, analysis 475-31-0 1972-08-3
9002-61-3 9002-71-5 20830-81-3
ROLE: ANT (Analyte); ANST (Analytical study)
(determination of, by liquid differentiation immunoassay)

INDEX TERM: 20830-75-5
ROLE: ANT (Analyte); ANST (Analytical study)
(determination of, in blood plasma of human by liquid differentiation immunoassay)

INDEX TERM: 481-97-0
ROLE: ANT (Analyte); ANST (Analytical study)
(determination of, in blood serum and urine of human by liquid differentiation immunoassay)

INDEX TERM: 51-48-9, analysis
ROLE: ANT (Analyte); ANST (Analytical study)
(determination of, in blood serum of human by liquid differentiating immunoassay)

INDEX TERM: 27376-76-7
ROLE: ANT (Analyte); ANST (Analytical study)
(determination of, in blood serum of human by liquid differentiation immunoassay)

INDEX TERM: 50-27-1 50-28-2, analysis 53-16-7, analysis 58-22-0
ROLE: ANT (Analyte); ANST (Analytical study)
(determination of, in human blood plasma by liquid differentiation immunoassay)

INDEX TERM: 1180-25-2 1852-49-9 1852-50-2 2479-90-5 74915-85-8
ROLE: ANT (Analyte); ANST (Analytical study)
(determination of, in human urine by liquid differentiation immunoassay)

INDEX TERM: 7783-20-2, uses and miscellaneous
ROLE: USES (Uses)
(in drugs and hormones determination by liquid differentiation immunoassay)

INDEX TERM: 50-28-2D, acridine derivative esters 260-94-6D, derivs.,
esters with estradiol
ROLE: ANST (Analytical study)
(in estriol determination by luminescent liquid differentiation immunoassay)

INDEX TERM: 9001-45-0 9030-08-4
ROLE: ANST (Analytical study)
(in steroid hormone determination by liquid differentiation immunoassay)

INDEX TERM: 9013-79-0 9016-17-5
ROLE: ANST (Analytical study)
(in steroid hormones determination by liquid differentiation immunoassay)

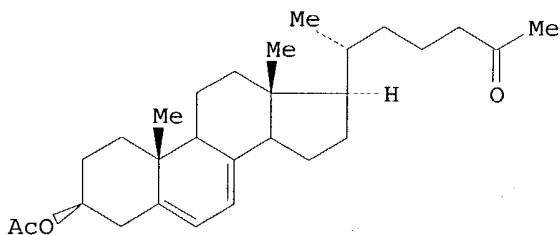
INDEX TERM: 10190-93-9D, reaction products with isoluminol derivative
66612-29-1D, reaction products with testosterone derivative
ROLE: ANST (Analytical study)
(in testosterone determination by luminescent liquid differentiation immunoassay)

INDEX TERM: 9002-61-3DP, tritiated conjugates 61049-01-2DP, reaction
products with chorionic gonadotropin
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, for liquid differentiation immunoassay)

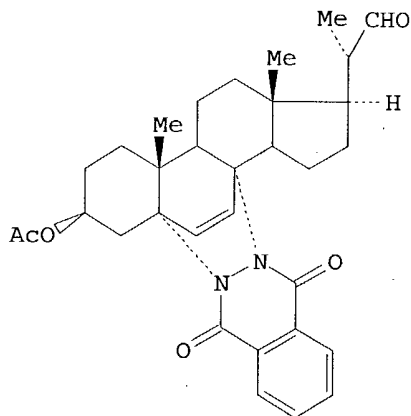
INDEX TERM: 9024-00-4

liquid
 ROLE: ANST (Analytical study)
 (reactant containing, for drug and hormone determination by
 differentiation immunoassay)
 INDEX TERM: 9004-07-3
 ROLE: ANST (Analytical study)
 (α -, in thyroxine determination by liquid differentiation
 immunoassay)
 INDEX TERM: 9004-07-3
 ROLE: ANST (Analytical study)
 (β -, reactant containing, for drug and hormone determination
 by
 liquid differentiation immunoassay)

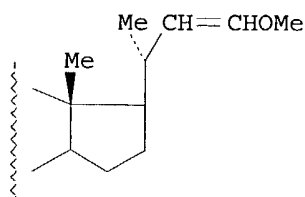
L120 ANSWER 16 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1979:405411 HCAPLUS
 DOCUMENT NUMBER: 91:5411
 ENTRY DATE: Entered STN: 12 May 1984
 TITLE: Studies on group **D vitamins**. V.
 Synthesis of 3 β -acetoxy-27-norcholesta-5,7-dien-
 25-one
 AUTHOR(S): Bogoslovskii, N. A.; Litvinova, G. E.; Samokhvalov, G.
 I.
 CORPORATE SOURCE: Vses. Nauchno-Issled. Vitam. Inst., Moscow, USSR
 SOURCE: Zhurnal Obshchei Khimii (1979), 49(1), 227-31
 CODEN: ZOKHA4; ISSN: 0044-460X
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 CLASSIFICATION: 32-6 (Steroids)
 GRAPHIC IMAGE:



I



II



III

ABSTRACT:

The title compound I was prepared from the **phthalazinedione** Diels-Alder adduct II. Thus, Wittig condensation of II with Ph₃P:CHOMe gave the vinyl ether III, which was treated with LiAlH₄ and hydrolyzed by 70% HCO₂H to give 3 β -hydroxy-24-norchola-5,7-dien-23-al (IV). Wittig reaction of IV with Ph₃P:CHCOMe gave 3 β -hydroxy-27-norcholesta-5,7,23-trien-25-one, which underwent selective reduction in THF containing CuI, Me₃COH, and NaAlH₂(OCH₂CH₂OMe)₂ and subsequent acetylation to give I.

SUPPL. TERM: norcholestadienone acetoxy; pregnadienecarboxaldehyde
phthalazinedione adduct Wittig

INDEX TERM: Steroids, preparation
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(27-nor-, 3 β -acetoxy-25-oxo-5,7-unsatd., preparation of,
from 3 β -acetoxypregna-5,7-diene-20-carboxaldehyde
phthalazinedione Diels-Alder adduct)

INDEX TERM: 56006-76-9
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Wittig condensation reaction of, with
(methoxymethylene)phosphorane derivative)

INDEX TERM: 1439-36-7
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Wittig condensation reaction of, with norcholadienal
derivative)

INDEX TERM: 20763-19-3
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Wittig condensation reaction of, with
pregnadienecarboxaldehyde **phthalazinedione**
adduct)

INDEX TERM: 70433-45-3P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and Wittig condensation reaction of, with
(acetylmethylene)phosphorane derivative)

INDEX TERM: 70455-54-8P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation and hydride reduction-hydrolysis of)

INDEX TERM: 70433-47-5P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of)

INDEX TERM: 70433-46-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and selective hydrogenation of)

INDEX TERM: 24281-79-6P 70433-44-2P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

L120 ANSWER 17 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1978:563848 HCAPLUS

DOCUMENT NUMBER: 89:163848

ENTRY DATE: Entered STN: 12 May 1984

TITLE: Study of D group **vitamins**. III.

Synthesis of **vitamin D3** analogs

containing one or two double bonds in the side chain

AUTHOR(S): Bogoslovskii, N. A.; Litvinova, G. E.; Samokhvalov, G.
I.

CORPORATE SOURCE: Vses. Nauchno-Issled. Vitam. Inst., Moscow, USSR
SOURCE: Zhurnal Obshchei Khimii (1978), 48(4), 908-13
CODEN: ZOKHA4; ISSN: 0044-460X
DOCUMENT TYPE: Journal
LANGUAGE: Russian
CLASSIFICATION: 32-6 (Steroids)
GRAPHIC IMAGE:

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

ABSTRACT:

The title compds. I (R = Me₂CHCH₂, CH:CM₂) were prepared from the ergosterin acetate adduct II by ozonolysis to give the pregnanecarboxaldehyde adduct III, which underwent successive Wittig condensation with Ph₃P:CHR, LiAlH₄ reduction, and isomerization to give I.

SUPPL. TERM: **secocholestatetraenol**;
secocholestapentaenol; **vitamin D3**
analog; ergosterin **phthalazinedione** adduct
ozonolysis
INDEX TERM: 9,10-Secosteroids
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of **vitamin D3** unsatd.
analogs)
INDEX TERM: 1445-69-8
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(cycloaddn. reaction of, with ergosterin acetate)
INDEX TERM: 2418-45-3
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(cycloaddn. reaction of, with **phthalazinedione**)
INDEX TERM: 31188-53-1P 39110-24-2P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and Wittig reaction of, with
pregnenecarboxaldehyde derivative)
INDEX TERM: 56006-76-9P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and Wittig reactions of)
INDEX TERM: 67883-11-8P 67883-12-9P 67883-13-0P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and hydride reduction of)
INDEX TERM: 56192-94-0P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and ozonolysis of)
INDEX TERM: 22643-62-5P 34298-92-5P 67920-53-0P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and ring cleavage-isomerization of)
INDEX TERM: 22643-91-0P 67883-14-1P 67883-15-2P 67883-16-3P
67920-54-1P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
INDEX TERM: 603-35-0, reactions
ROLE: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with bromomethylbutanol)
INDEX TERM: 35979-69-2
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with triphenylphosphine)

L120 ANSWER 18 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1978:563847 HCAPLUS
DOCUMENT NUMBER: 89:163847
ENTRY DATE: Entered STN: 12 May 1984
TITLE: Study of **D** group **vitamins**. IV.
Synthesis of 25-hydroxy-22-
dehydrocholecalciferol
AUTHOR(S): Bogoslovskii, N. A.; Litvinova, G. A.; Bekker, A. R.;
Filippova, T. M.; Samokhvalov, G. M.
CORPORATE SOURCE: Vses. Nauchno-Issled. Vitam. Inst., Moscow, USSR
SOURCE: Zhurnal Obshchei Khimii (1978), 48(4), 897-902
CODEN: ZOKHA4; ISSN: 0044-460X
DOCUMENT TYPE: Journal
LANGUAGE: Russian
CLASSIFICATION: 32-6 (Steroids)
GRAPHIC IMAGE:

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

ABSTRACT:

The title compound I was prepared from the **phthalazinedione** adduct II. Thus, Wittig reaction of II with HO₂CCH₂CH₂P+Ph₃ Br⁻ and esterification gave the homocholadienoate adduct III, which was successively treated with NaBH₄, CH₂N₂, and Ac₂O in pyridine to give the homocholatrienoate IV. Grignard reaction of IV with MeMgI and subsequent isomerization gave I.

SUPPL. TERM: **hydroxydehydrocholecalciferol**;
dehydrocholecalciferol hydroxy;
cholecalciferol dehydrohydroxy; dinorcholadienal
phthalazinedione adduct Wittig condensation
INDEX TERM: 9,10-Secosteroids
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of **vitamin D** analogs)
INDEX TERM: 3395-91-3
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Grignard reaction of)
INDEX TERM: 67113-58-0P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and Grignard reaction of)
INDEX TERM: 1530-34-3P 51114-94-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and Wittig reaction of, with
pregnenecarboxaldehyde derivative)
INDEX TERM: 67883-19-6P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and acetylation of)
INDEX TERM: 67920-55-2P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)

(preparation and hydride reduction of)
INDEX TERM: 35979-69-2P 67883-17-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with triphenylphosphine)
INDEX TERM: 66513-97-1P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation and ring cleavage-isomerization of)
INDEX TERM: 67883-18-5P 67883-20-9P 67920-56-3P 67920-57-4P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
INDEX TERM: 590-92-1
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with triphenylphosphine)

=> FIL STNGUIDE

FILE 'STNGUIDE' ENTERED AT 12:33:25 ON 22 NOV 2004
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LAST RELOADED: Nov 19, 2004 (20041119/UP).

=> d ibib abs l120 19-21

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, BIOSIS, CABA, JICST-EPLUS, WPIX' -
CONTINUE? (Y)/N:y

L120 ANSWER 19 OF 26 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on
STN

ACCESSION NUMBER: 1996:181848 BIOSIS
DOCUMENT NUMBER: PREV199698737977
TITLE: Synthesis of 22-cupriosteroids, a new route to steroids
possessing oxygenated side chains.
AUTHOR(S): Scherlitz-Hoffmann, Ina; Boessneck, Ulrich; Schoenecker,
Bruno
CORPORATE SOURCE: Inst. Organische Makromolekulare Chem. Friedrich-Schiller-
Univ. Jena, Humboldtstrasse 10, D-07743 Jena, Germany
SOURCE: Liebigs Annalen, (1996) Vol. 0, No. 2, pp. 217-222.
ISSN: 0947-3440.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 29 Apr 1996
Last Updated on STN: 29 Apr 1996

AB A new method for the synthesis of steroids with oxygenated side chains
starting from C-22 steroids is described. Rieke copper, obtained by
reduction of lithium 2-thienylcyanocuprate 4 with lithium naphthalenide at
-78 degree C or -100 degree C, reacts with the 22-bromosteroids 1a, 2, 14
to afford the corresponding cupriosteroids. In addition to the metalation
a very smooth retro Diels-Alder reaction takes place in the case of 14 at
the B ring. The steroid-copper compounds react with (+-)-1,2-epoxypropane
to furnish epimeric mixtures of the 24-hydroxysteroids 6, 8 and 15 in good
yields. The procedure described is useful for a short synthesis of
(24R)-cholesta-5,7-diene-3-beta,24,25-triol (17, as 3-silyl ether), the
provitamin of the main metabolite (24R)-24,25-dihydroxyvitamin

D-3, using 14, Rieke copper and the highly functionalized chiral building block 10/n-butyllithium.

L120 ANSWER 20 OF 26 CABA COPYRIGHT 2004 CABI on STN

ACCESSION NUMBER: 78:68346 CABA

DOCUMENT NUMBER: 19771459030

TITLE: International Society of Parenteral Nutrition
Proceedings, Kyoto, Japan 3 - 9 August 1975

AUTHOR: Meng, H. C.; Lee, H. A.; Wretlind, A.; Hirai, Y.;
Kubo, M.; Nakamura, K.; Imai, T.; Hasegawa, S.;
Fujiwara, T.; Heller, L.; Nichoalds, G. E.; Greene,
H. L.; Caldwell, M. D.; Furuya, K.; Momose, K.;
Tanaka, T.; Arakawa, T.; Tamura, T.; Igarashi, Y.;
Suzuki, H.; Sandstead, H. H.; Okada, A.; Takagi, Y.;
Itakura, T.; Satani, M.; Manabe, H.; Iida, Y.;
Fleming, C. R.; Hodges, R. E.; Smith, L. M.; Hurley,
L. S.; Ricour, C.; Gros, J.; Maziere, B.; Comar, D.;
Yoshida, H.; Abei, T.; Abe, T.; Ausman, R. K.;
Kremer, J. N.; Papele, O. J.; Grom, N. P.; Jacobson,
S.; Aust, J. B.; Friend, J. E.; Asplund, J. M.;
Hartig, W.; Faust, H.; Czarnetzki, H. D.; Bark, S.;
Holm, I.; Hakansson, I.; Kihlberg, R.; Levin, G.;
Roos, K. A.; Rowlands, B. J.; Giddings, A. E. B.;
Clark, R. G.; Wang, P. Y.; Hsu, T. L.; Chien, K. Y.;
Lu, K. S.; Lackner, F.; Baumgartner, L.;
Steinbereithner, K.; Blackburn, G. L.; Maini, B.;
Bistriani, B. R.; Flatt, J. P.; Page, G.; Gibbons,
G.; Sigman, D.; Cochran, D.; Toyota, T.; Goto, Y.;
Sato, S.; Takahashi, K.; Fujihara, H.; Yokoyama, K.;
Okamoto, H.; Tsuda, Y.; Suyama, T.; Rossner, S.;
Eklund, B.; Freyschuss, U.; Hallberg, D.; Kaijser,
L.; Olsson, A.; Kronevi, T.; Matsumoto, T.;
Vitolina, S. P.; Girgensone, M.; Mashima, Y.; Guhji,
M.; Aoki, Y.; Adachi, H.; Atik, M.; Schuberth, O. O.
[EDITOR]

SOURCE: Acta Chirurgica Scandinavica, (1976) No. Suppl. 466,
pp. 124.

DOCUMENT TYPE: Conference

LANGUAGE: English

ENTRY DATE: Entered STN: 19941101

Last Updated on STN: 19941101

AB H. C. Meng (2-5), history and basic concepts of parenteral nutrition; H.
A. Lee and A. Wretlind (6-7), non protein energy sources in parenteral
nutrition; Y. Hirai, M. Kubo, K. Nakamura, T. Imai, S. Hasegawa and T.
Fujiwara (8-9), parenteral nutrition in pediatrics: evaluation in amino
acid metabolism for the composition of infusates; L. Heller (10-11),
further studies in parenteral nutrition; G. E. Nichoalds, H. L. Greene and
M. D. Caldwell (12-13), **vitamin** requirements in
patients receiving total parenteral nutrition (TPN); K. Furuya, K. Momose
and T. Tanaka (14-15), a new method to determine adequate requirements of
electrolytes in intravenous nutrition; T. Arakawa, T. Tamura, Y. Igarashi,
H. Suzuki and H. H. Sandstead (16-17), zinc deficiency in two infants
during total parenteral nutrition for intractable diarrhoea; A. Okada, Y.
Takagi, T. Itakura, M. Satani, H. Manabe and Y. Iida (18-19), zinc
deficiency during intravenous hyperalimentation; C. R. Fleming, R. E.
Hodges, L. M. Smith and L. S. Hurley (20-21), essential fatty acid,
copper, zinc and tocopherol deficiencies in total parenteral nutrition; C.
Ricour, J. Gros, B. Maziere and D. Comar (22-23), trace elements in
children on total parenteral nutrition (TPN); H. Yoshida, T. **Abei**
and T. Abe (24-25), a trial on the evaluation of the effectiveness of

parenterally administered amino acid mixture; R. K. Ausman and H. C. Meng (26-27), the effect of nitrogen balance and other parameters of varying doses of intravenous protein and calories; J. N. Kremer, O. J. Pupele and N. P. Grom (28-29), the level of urea in blood as a measure of efficiency of amino acid mixture for parenteral nutrition; S. Jacobson (30-31), free amino acids in serum and urine postoperatively in total parenteral nutrition (TPN), a study of the effects of an amino acid solution supplied at two levels; R. K. Ausman, J. B. Aust and J. E. Friend (32-33), parenteral nutrition with a new amino acid solution; J. M. Asplund (34-35), a parenteral model to study amino acid requirements of functioning ruminants; W. Hartig, H. Faust and H. D. Czarnetzki (36-37), the utilisation of solutions of amino acids in healthy human beings and under stress condition, studied with 15-N-glycine; S. Bark (38-39), amino acid concentration in plasma after gastro-intestinal, intraportal and intravenous administration of crystalline amino acids; S. Bark, I. Holm, I. Hakansson and A. Wretlind (40-41), nitrogen-sparing effect of fat emulsion compared with glucose in the postoperative period; R. Kihlberg, G. Levin and K. A. Roos (42-43), a comparison of enteral and parenteral nutrition in rats; B. J. Rowlands, A. E. B. Giddings and R. G. Clark (44-45), carbohydrate infusion in surgical patients, a therapeutic dilemma; P. Y. Wang, T. L. Hsu, K. Y. Chien, K. S. Lu and H. C. Meng (46-47), total parenteral alimentation (TPA) with a combination of carbohydrates in surgical patients with carcinoma of the esophagus; F. Lackner, L. Baumgartner and K. Steinbereithner (48-49), 30 p.c. glucose versus a balanced mixture of levulose, glucose and xylitol (LGX) in TPA of intensive care patients; G. L. Blackburn, B. Maini, B. R. Bistran, J. P. Flatt, G. Page, G. Gibbons, D. Sigman and D. Cochran (50-51), "cyclic hyperalimentation" - an optimal technique for preservation of visceral protein mass; T. Toyota, Y. Goto, S. Sato, K. Takahashi and H. Fujihara, (52-53), studies on the metabolism of maltose administered intravenously in diabetic patients; K. Yokoyama, H. Okamoto, Y. Tsuda and T. Suyama (54-55), metabolism of intravenously injected fat emulsion; S. Rossner, B. Eklund, U. Freyschuss, D. Hallberg, L. Kaijser and A. Olsson (56-57), elimination of parenterally administered fat, studies on removal sites for intralipid in normo- and hyperlipidaemic subjects; T. Kronevi and K. A. Roos (58-59), comparison of two intravenous feeding regimens including fat emulsion in the rat; T. Suyama, K. Yokoyama, H. Okamoto and T. Matsumoto (60-61), role of fat emulsion in complete parenteral alimentation; I. Holm and A. Wretlind (62-63), methods for complete intravenous nutrition with fat; S. Vitolina, M. Girgensone and J. Kremer (64-65), further studies on the utilization of 1,3-butanediol as a source of energy in parenteral nutrition; Y. Mashima, M. Guhji, H. Adachi and Y. Aoki (66-67), dose requirement of fat emulsion as a source of essential fatty acid in parenteral nutrition; M. Atik (68-69), platelet dysfunction after intravenous infusion of fat emulsion. [Continued in next abst.]

L120 ANSWER 21 OF 26 JICST-EPlus COPYRIGHT 2004 JST on STN

ACCESSION NUMBER: 870244640 JICST-EPlus

TITLE: Diazapolycyclic compounds. XXVI Diazaquinone adducts from isoprenoid compounds.

AUTHOR: CONTRERAS F G; SANZ A M
LORA-TAMAYO M

CORPORATE SOURCE: Univ. Complutense Madrid, ESP
C.S.I.C., Madrid, ESP

SOURCE: Heterocycles, (1987), vol. 25, no. Special Issue, pp.
193-200. Journal Code: S0966A (Tb1. 2, Ref. 10)
ISSN: 0385-5414

PUB. COUNTRY: Japan

DOCUMENT TYPE: Journal; Short Communication

LANGUAGE: English

STATUS: New

AB Diazaquinones such as **phthalazine**- and benzo(g)-**phthalazine**-1,4-dione react with isoprenoid compounds to give 4+2 diazapolycyclic adducts. Treatment with B-myrcene, alloocimene, neoalloocimene or ergocalciferol affords the expected cycloaddition products in good yields, whereas no reaction is found with B-ionone or retinol acetate. Some side-chain derivatives of these adducts have also been prepared. (author abst.)

=> d iall abeq tech abex l120 22-26

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, BIOSIS, CABA, JICST-EPLUS, WPIX' -
CONTINUE? (Y)/N:y

L120 ANSWER 22 OF 26 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
ACCESSION NUMBER: 2002-643272 [69] WPIX
DOC. NO. NON-CPI: N2004-029084
DOC. NO. CPI: C2004-014140
TITLE: Measuring vitamin D metabolite e.g. 25-hydroxy vitamin D in sample, by adding non-competitive displacement agent to sample to separate any metabolite from protein to which it is bound, and measuring amount of metabolite.
DERWENT CLASS: B04 S03
INVENTOR(S): BARNES, A K; GARDNER, M J; LAURIE, D
PATENT ASSIGNEE(S): (IMMU-N) IMMUNODIAGNOSTIC SYSTEMS LTD; (BARN-I) BARNES A K; (GARD-I) GARDNER M J; (LAUR-I) LAURIE D
COUNTRY COUNT: 100
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN	IPC
WO 2002046746	A2	20020613	(200269)*	EN	24	G01N033-48<--	
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW							
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZM ZW							
AU 2002020900	A	20020618	(200269)			G01N033-48<--	
EP 1352238	A2	20031015	(200368)	EN		G01N033-48<--	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR							
US 2004096900	A1	20040520	(200434)			G01N033-53<--	
JP 2004515763	W	20040527	(200435)		43	G01N033-82<--	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002046746	A2	WO 2001-GB5395	20011206
AU 2002020900	A	AU 2002-20900	20011206
EP 1352238	A2	EP 2001-999806	20011206
		WO 2001-GB5395	20011206
US 2004096900	A1	WO 2001-GB5395	20011206
		US 2003-433923	20031217
JP 2004515763	W	WO 2001-GB5395	20011206
		JP 2002-548433	20011206

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2002020900	A Based on	WO 2002046746
EP 1352238	A2 Based on	WO 2002046746
JP 2004515763	W Based on	WO 2002046746

PRIORITY APPLN. INFO: GB 2000-29729 20001206

INT. PATENT CLASSIF.:

MAIN: G01N033-48; G01N033-53;
G01N033-82SECONDARY: G01N021-76; G01N021-77;
G01N021-78; G01N033-543;
G01N033-58

BASIC ABSTRACT:

WO 200246746 A UPAB: 20040426

NOVELTY - Measuring (M) vitamin D metabolite present in a plasma or serum sample, involves adding to a serum or plasma sample a non-competitive displacement agent to effect separation of any vitamin D metabolite in the sample from protein to which it is bound, such that any vitamin D metabolite may be detected and/or measured, and detecting or measuring the amount of vitamin D metabolite in the sample.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- (1) a non-competitive displacement agent (I) of (M); and
- (2) a kit (II) for performing (M), comprising (I).

USE - (M) and (I) are useful for measuring the vitamin D metabolite such as 25-hydroxy vitamin D or its analog in serum or plasma sample. (M) is also useful for determining the vitamin D status of a subject (claimed) which is useful for diagnosing disease and determining the underlying cause of a number of disease states such as rickets, and hyper- or hypo-calcaemia.

ADVANTAGE - (M) is an improved method. In (M), the elimination of both the extraction step and competitive displacement agents made it more efficient and cost effective than prior art methods. (M) is also simple and effective.

Dwg.0/3

FILE SEGMENT: CPI EPI

FIELD AVAILABILITY: AB; DCN

MANUAL CODES: CPI: B03-G; B04-G01; B04-L01; B04-N04; B04-N06;
B06-A01; B06-F03; B10-A09B; B11-C07A4; B11-C07B3;
B11-C07B4; B12-K04A

EPI: S03-E14H

TECH UPTX: 20040426

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Method: The non-competitive displacement agent is a chemical agent such as 8-anilino-1-naphthalenesulfonic acid ammonium salt, 3-(acetonylbenzyl)-4-hydroxycoumarin and a water miscible solvent (methanol). The amount of vitamin D metabolite is measured using a competitive binding assay or an immunoassay. The competitive binding assay comprises providing a support having immobilized on it, a binding factor capable of binding a vitamin D metabolite, contacting the support with a sample comprising the vitamin D metabolite to be measured, contacting the support with a labeled form of the vitamin D metabolite, and measuring the amount of labeled vitamin D metabolite left bound to the support, where the amount of labeled vitamin D metabolite bound to the support is proportional to the amount of vitamin D metabolite in the sample. The binding factor immobilized on the support is vitamin D binding protein (DBP) or anti-vitamin D metabolite antibody. The vitamin D metabolite is labeled with biotin, avidin, a fluorescent

molecule, or chemiluminescent molecule.

Preferred Kit: (II) further comprises a key showing the correlation between the results of the method and the amount of vitamin D metabolite present in the sample, unit for measuring the vitamin D metabolite present in the sample, and one or more support, labels, protein, antibody and instructions for use.

ABEX UPTX: 20040426

EXAMPLE - An enzymeimmunoassay was performed for measuring vitamin D metabolite present in a plasma or serum sample. Sample (25 micro l) was diluted with 1 ml of vitamin D displacement agent. The formulation of the vitamin D displacement agent was any conventional buffer, such as phosphate buffered silane (PBS) solution containing 8-anilino-1-naphthalenesulfonic acid ammonium salt (0.5-10 g/l, preferably 1.6 g/l), 3-(alpha-acetonylbenzyl)-4-hydroxycoumarin (50-100 mg/l, preferably 160 mg/l) and methanol (10-300 m/l, preferably 160 m/l). A portion of the diluted sample (100 micro l) was added to the anti-vitamin D antibody coated microtiter plate. Then a solution (100 micro) of the vitamin D-biotin **conjugate** was added and incubated for 90 minutes at room temperature. The plate was washed three times with 10 mM PBS containing 0.05% Tween20 (PBST). Avidin peroxidase **conjugate** diluted 1:2000 in PBST was added, incubated for 30 minutes, and washed three times with PBST. TMB substrate reagent was added and color was allowed to develop for 30 minutes. After addition of 0.5 M HCL to stop the reaction, the absorbance was recorded at 450 nm. A calibration curve was prepared with each batch of samples, and the 25-hydroxyvitamin D values for each sample was read directly from the calibration curve using the absorbance valued obtained for each sample. To demonstrate effectiveness of the direct 25-hydroxyvitamin D enzymeimmunoassay with patient samples, the assay was compared to two commercially available radioimmunoassays, both of which used an extraction step as part of sample preparation prior to assay. The direct 25D enzymeimmunoassay showed good agreement and correlation with two established extraction radioimmunoassays, and thus demonstrated the utility of a direct 25-hydroxyvitamin D enzymeimmunoassay for the quantitative determination of 25-hydroxyvitamin D (and other metabolites) in serum or plasma specimens.

L120 ANSWER 23 OF 26 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
 ACCESSION NUMBER: 1991-299980 [41] WPIX
 DOC. NO. NON-CPI: N1991-229654
 DOC. NO. CPI: C1991-130096
 TITLE: Method for immunoassay - comprises contacting insol. carrier, 1st antibody and sample and determining agglutination reaction by analyte cpd. in sample etc..
 DERWENT CLASS: B04 S03
 PATENT ASSIGNEE(S): (IATR) IATRON LABORATORIES
 COUNTRY COUNT: 1
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN	IPC
JP 03199967	A	19910830	(199141)*		14		
JP 2759365	B2	19980528	(199826)		10	G01N033-543<--	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 03199967	A	JP 1989-338921	19891227
JP 2759365	B2	JP 1989-338921	19891227

FILING DETAILS:

PATENT NO	KIND	PATENT NO
JP 2759365	B2 Previous Publ.	JP 03199967

PRIORITY APPLN. INFO: JP 1989-338921 19891227

INT. PATENT CLASSIF.: G01N033-54

MAIN: G01N033-543

SECONDARY: G01N033-54

BASIC ABSTRACT:

JP 03199967 A UPAB: 19930928

A method for immunoassay comprises contacting (a) insol. carrier on which 2nd antibody to the antigen-antibody reaction **conjugate** of an analyte cpd. and 1st antibody to the cpd. is supported, (b) the 1st antibody or insol. or soluble carrier supporting the 1st antibody and (c) a sample, and determining the agglutination reaction by the analyte cpd. in the sample, the 2nd antibody-supporting carrier and the 1st antibody or the 1st antibody-supporting carrier.

A reagent for the immunoassay which contains (a) insoluble carrier supporting the 2nd antibody to the antigen-antibody reaction **conjugate** of the analyst cpd. and the 1st antibody to the analyte cpd. and (b) the 1st antibody or insol. or soluble carrier supporting the 1st antibody.

USE/ADVANTAGE - The method and a reagent for the determin. of especially low molecular by utilising immunological agglutination reaction. According to the method, the determin. by agglutination reaction can be carried out even about an analyte cpd., especially low molecular cpd., to

which

agglutination by antigen-antibody reaction is hardly or cannot be utilised.

0/0

FILE SEGMENT:	CPI EPI
FIELD AVAILABILITY:	AB; DCN
MANUAL CODES:	CPI: B01-D02; B03-G ; B04-A02; B04-A07E; B04-B02D4; B04-B04A; B04-B04B; B04-B04C; B04-B04D1; B04-B04D4; B04-B04D5; B04-C01; B04-C02C; B04-C03; B07-D12; B10-A07; B11-C07A; B12-K04A EPI: S03-E14H4

L120 ANSWER 24 OF 26 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN

ACCESSION NUMBER: 1989-326361 [45] WPIX

DOC. NO. NON-CPI: N1989-248428

DOC. NO. CPI: C1989-144464

TITLE: New 11-substd. vitamin D derivs. - useful as medicaments and for production of immunoassay reagents.

DERWENT CLASS: B03 B04 B05 D16 K08 S03

INVENTOR(S): BOUILLON, R; DE, CLERCQ P J; ELIARD, P; VANDEWALLE, M;
DECLERCQ, R J; DE, CLERCO P J; VANDERWALLE, MPATENT ASSIGNEE(S): (MEDG-N) MEDGENIX DIAGNOSTIC; (IREM-N) IRE MEDGENIX SA;
(IREM-N) IRE-MEDGENIX SA

COUNTRY COUNT: 16

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN	IPC
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EP 341158	A	19891108	(198945)*	FR	47		
				R: AT BE CH DE ES FR GB GR IT LI LU NL SE			

FR 2631025 A 19891110 (199001)

JP 02262555 A 19901025 (199049)

US 5093519 A 19920303 (199212) 34
 EP 341158 B1 19930107 (199302) FR 74 C07C401-00
 R: AT BE CH DE ES FR GB GR IT LI LU NL SE
 DE 68904235 E 19930218 (199308) C07C401-00
 US 5232836 A 19930803 (199332) 32 C12Q001-66
 ES 2045484 T3 19940116 (199407) C07C401-00

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 341158	A	EP 1989-401262	19890503
FR 2631025	A	FR 1988-5985	19880504
JP 02262555	A	JP 1989-114003	19890506
US 5093519	A	US 1989-345623	19890501
EP 341158	B1	EP 1989-401262	19890503
DE 68904235	E	DE 1989-604235	19890503
		EP 1989-401262	19890503
US 5232836	A Div ex	US 1989-345623	19890501
		US 1992-837860	19920218
ES 2045484	T3	EP 1989-401262	19890503

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 68904235	E Based on	EP 341158
US 5232836	A Div ex	US 5093519
ES 2045484	T3 Based on	EP 341158

PRIORITY APPLN. INFO: FR 1988-5985 19880504

REFERENCE PATENTS: 1.Jnl.Ref; A3...9014; DE 2440406; EP 92004; FR 2376863;
 FR 2376864; No-SR.Pub; US 2407672

INT. PATENT CLASSIF.:

MAIN: C07C401-00; C12Q001-66
 SECONDARY: A61K031-59; A61K049-02; C07B059-00; C07C035-21;
 C07C035-50; C07C049-73; C07C069-34; C07C172-00;
 C07K015-00; G01N033-82; G01N037-00

BASIC ABSTRACT:

EP 341158 A UPAB: 19930923

(A) Vitamin D derivs. of formula (I) are new: where R1 = substd. 1-15C alkyl; Y = H or opt. modified OH; X = opt. substd. alkyl, unsatd. alkyl, aryl, heteroaryl, halogen, CN, organosulphonyl, organosulphonyl or opt. modified OH, SH or NH2; R2 and R3 = H or Me, but not both Me, or R2 + R3 = CH2. (B) Antigens comprising (I) covalently bonded via a C11 branch to an immunogenic carrier protein, antibodies to such antigens, and labelled derivs. of (I), are also new. (C) Intermediates of formula (II) are also new: R1 = opt. modified OH.

R1 = the C20-C28 side chain of vitamin D2 or the C20-C27 side chain of vitamin D3, opt. substd. by OH, Me, Et, and/or halogen and/or containing additional C atoms and/or with esterified and/or etherified OH gps. and/or with C atoms replaced by O, N or S and/or cyclised between C26 and C27 and/or substd. by saturated, unsatd., aromatic or heteroaromatic rings and/or containing one or more double or triple bonds, especially of formula: where

R4 and

R5 = H or OH; X = Me, Ph, CH2CH2OH or CH2CH2OCOCH2CH2-COOH.

USE - (I) are useful as vitamin D agonists or antagonists for therapeutic purposes, and especially for production of antibodies and labelled derivs. for use in vitamin D immunoassays.

0/4

FILE SEGMENT: CPI EPI
 FIELD AVAILABILITY: AB; DCN
 MANUAL CODES: CPI: B03-G; B04-B04C; B10-E04B; B10-F02;
 B12-K04A; D05-H10; K09-B; K09-E
 EPI: S03-E14H4

ABEQ EP 341158 B UPAB: 19930923

Vitamin D derivs. corresp. to the following formula (I) in which R1 denotes a substd. alkyl gp. having 1-15 carbon atoms in particular the side chains of vitamin D2 (220-28C) or D3 (20-27C) or these same chains partially modified in particular hydroxylated at one or more positions e.g. the 24-, 25- and/or 26-positions and/or methylated or ethylated at one or more positions e.g. the 24-, 26- and/or 27-positions and/or halogenated or polyhalogenated at one or more positions e.g. perfluorinated (trifluoromethyl) at the 26- and 27-positions or difluorinated at the 24-position and/or by the addn. of one or more carbon atoms in particular an atom C24' between the 24- and 25-positions, with the same possibilities of substitution as mentioned above, and/or esterified on one or more hydroxyl gps. mentioned above and/or etherified on one or more hydroxyl gps. mentioned above, and/or by replacing one or more carbon atoms by an oxygen, nitrogen or sulphur atom, for example an oxygen at the 22-, 23- or 24-positions, and/or cyclised between carbons C26 and C27 by a direct bond (cyclopropane) or via a chain of 1-3 carbon atoms, it being possible for each of these atoms to bear all the gps. or modifications described above, and/or substd. at one or more positions with a satd. unsatd. aromatic or heteroaromatic ring, capable of bearing all the gps. and modifications described above, and/or unsatd. with one or more carbon-carbon double or triple bond(s), it being possible for these unsatd. alkyl gps. to bear all the gps. and modifications described above and the isometric forms of the different gps. situated on the chain, Y denotes H or OH or gps. derived from the latter such as ester and ether, X denotes an alkyl chain in particular of 1-6 carbon atoms, opt. substd. at different points by one or more functional gp(s)., Z which can be in particular, a halogen (such as fluorine), a hydroxyl, formyl, carboxyl, amine, thiol, cyano, nitro, sulphoxide, sulphone or phosphono gp. or alternatively gps. derived from these latter such as ether, ester, acetal, amide, hydrazine, phosphate or bis(phosphate), or an unsatd. alkyl chain having one or more carbon-carbon double or triple bond(s), it being possible for these chains, in addn. to bear functional chain having one mentioned above or an aromatic or heteroaromatic ring, opt. substd. with halogens, one (or more) hydroxyl, amine, formyl, carboxyl, thiol, cyano or nitro gp(s). or alternatively gps. derived from these latter, such as ether, ester, acetal or amide or a halogen, a cyano, sulphoxide, sulphone, hydroxyl, thiol or amine gp. or alternatively derivs. of these latter, such as ether, ester, amine and hydrazine. R2 denotes a methyl gp. and R3 an H or R2 is H and R3 is methyl, or R2 and R3 are H or alternatively R2 and R3 together denote a methylene gp. =CH2.

1/4

ABEQ US 5093519 A UPAB: 19930923

Vitamin D derivs. are of formula (I) where R1 = 1-15C alkyl substd. by OH, ester, ether, CH3, Et, halogen(s), additional C(s), alkyl with C replaced by O, N and/or S, a ring formed by linking C (26) + C(27) or via a 1-3C chain (each opt. substd. or modified, and/or (un)satd. (hetero)aromatic (opt. substd Y = H, OH, ester or ether; X = (un)satd. alkyl opt. substd. by halogen, OH, formyl, carboxyl, NH2, SH, CN, NO2, sulphoxide, sulphone, phosphono, ether, ester, acetal, amide, hydrazine, phosphate or bis (phosphate); or (hetero) aromatic opt. substd. with halogen, OH, NH2, formyl, carboxyl, SH, CN, NO2, ether, ester, acetal or amide; or halogen, CN, sulphoxide, sulphone, OH, SH, NH2, ether, ester, or hydrazine; R2 = CH3, R3 = H or R2 = H, R3 = CH3 or R2 = R3 = H or R2 + R3 = =CH2.

USE/ADVANTAGE - In tracers e.g. enzymes or iodinated molecules for

assay of Vitamin D derivs. and treatment of vitamin insufficiency e.g. rickets osteomalacia, etc.

ABEQ US 5232836 A UPAB: 19931118

Tracer for analytical assay comprises the **conjugation** of a label with a vitamin D deriv. of formula (I). R1 is (1-15C)alkyl subst. by 1 or more OH, ester, ether, Me, Et, and/or halogen; Y is H, OH, ester or ether; X is opt. subst. alkyl, aromatic or heteroaromatic, halogen, CN, sulphoxide, sulphone, OH, SH, NH2, ether, ester or hydrozine; and R2 is Me and R3 is H (or R2 is H and R3 is Me), or together are CH2.

Pref. (I) is 11-alpha-(2-m- 125I-tyramidosuccinoyloxy)ethyl)-25-hydroxy-vitamin D3.

USE - In an assay for metabolites of vitamin D.

Dwg. 0/4

L120 ANSWER 25 OF 26 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN

ACCESSION NUMBER: 1989-158916 [22] WPIX

DOC. NO. NON-CPI: N1989-121223

DOC. NO. CPI: C1989-070508

TITLE: Production of ligand-polymer **conjugates** - with controlled ligand density, especially for use as immuno-turbidimetric assay reagents.

DERWENT CLASS: A96 B04 D16 J04 S03

INVENTOR(S): LEWIS, L A; YIP, K F

PATENT ASSIGNEE(S): (MILE) MILES INC

COUNTRY COUNT: 8

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN	IPC
EP 317796	A	19890531	(198922)*	EN	16		
R: DE FR GB IT							
AU 8824657	A	19890601	(198930)				
JP 01155272	A	19890619	(198930)				
US 4968742	A	19901106	(199047)				
CA 1305809	C	19920728	(199236)				G01N033-532<--
EP 317796	B1	19920930	(199240)	EN	15		G01N033-532<--
R: DE FR GB IT							
DE 3875076	G	19921105	(199246)				G01N033-532<--
JP 2607386	B2	19970507	(199723)			9	G01N033-543<--

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 317796	A	EP 1988-118110	19881031
JP 01155272	A	JP 1988-280553	19881108
US 4968742	A	US 1987-118566	19871109
CA 1305809	C	CA 1988-576687	19880907
EP 317796	B1	EP 1988-118110	19881031
DE 3875076	G	DE 1988-3875076	19881031
		EP 1988-118110	19881031
JP 2607386	B2	JP 1988-280553	19881108

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 3875076	G Based on	EP 317796
JP 2607386	B2 Previous Publ.	JP 01155272

PRIORITY APPLN. INFO: US 1987-118566 19871109
 REFERENCE PATENTS: 1.Jnl.Ref; EP 1197; EP 94777; GB 2101630; EP 142810; EP 149405; EP 178791; EP 215527; EP 246446; EP 28132; EP 77671

INT. PATENT CLASSIF.:

MAIN: G01N033-532; G01N033-543
 SECONDARY: C07K017-08; C08F008-00; C08F020-08; C08G063-48;
 C08L089-00; G01N033-53; G01N033-531;
 G01N033-546; G01N033-547;
 G01N033-72

BASIC ABSTRACT:

EP 317796 A UPAB: 19930923

Process for coupling a controllable number of ligands to a polymer having a repeating functional gp. (R1) comprises (a) introducing a controllable proportion of a second functional gp. (R2) by reacting the polymer with a mixture of excess amts. of an activating agent (I) and a blocking agent (II) in a predetermined (I):(II) molar ratio, where (I) reacts with R1 to form a covalent bond and also contains R2, and (II) also reacts with R1 to form a covalent bond but does not contain R2 or any equivalent reactive gp.; and (b) coupling the ligands to the polymer through R2.

USE/ADVANTAGE - The process is especially useful for production of multivalent

agglutination reagents for immunoturbidimetric assays for drugs, metabolites, hormones, vitamins and other antigens. Such reagents with a predetermined ligand density can be produced in reproducible manner, thus improving the sensitivity and precision of the assay.

0/0

FILE SEGMENT: CPI EPI

FIELD AVAILABILITY: AB

MANUAL CODES: CPI: A10-E01; A12-V03C2; B03-G; B04-B02D;
 B04-B04C; B04-C01; B06-F03; B12-K04; D05-H09;
 J04-B01B
 EPI: S03-E14H4

ABEQ DE 3875076 G UPAB: 19930923

Process for coupling a controllable no. of ligands to a polymer having a repeating functional gp. (R1) comprises (a) introducing a controllable proportion of a second functional gp. (R2) by reacting the polymer with a mixt. of excess amts. of an activating agent (I) and a blocking agent (II) in a predetermined (I):(II) molar ratio, where (I) reacts with R1 to form a covalent bond and also contains R2, and (II) also reacts with R1 to form a covalent bond but does not contain R2 or any equiv. reactive gp.; and (b) coupling the ligands to the polymer through R2.

USE/ADVANTAGE - The process is esp. useful for prodn. of multivalent agglutination reagents for immunoturbidimetric assays for drugs, metabolites, hormones, vitamins and other antigens. Such reagents with a predetermined ligand density can be produced in reproducible manner, thus improving the sensitivity and precision of the assay.

ABEQ EP 317796 B UPAB: 19930923

A method for chemically coupling a controllable number of ligands to a polymeric material, characterised by the steps of: (a) obtaining a polymeric material having a repeating functional group, (b) derivatising the repeating functional groups on the polymeric material to introduce a controllable proportion of a second functional group by reacting the polymeric material with a mixture of a predetermined ratio of excess amounts of (1) an activating agent which is reactive with said repeating functional group to form a covalent bond thereto and which comprises said second functional group, and (2) a blocking agent which also is reactive with said repeating functional groups to form a covalent bond thereto but which does not comprise said second functional group or any equivalent reactive group, and (c) coupling said ligands to the polymeric material

through the controllable introduced second functional groups.

2/3

ABEQ US 4968742 A UPAB: 19930923

A reproducible number of ligands is chemically coupled to a polymeric material (PM) by (A) introducing a 2nd functional gp. (FG) into a PM contg. a repeating FG (RFG) by reaction with a mixt. having a predetermined ratio of excess amt. of (a) an activating agent (AA) reactive to the RFG to form a covalent bond with it and which comprises the 2nd FG and (b) a blocking agent (BA) also reactive to the RFG and forming a covalent bond with it which is not a 2nd FG and (B) covalently coupling the ligands to the PM via the introduced 2nd FG.

The ligands are pref. substances having a specific protein binding partner, esp. haptens or biotin. The chemical gps. forming covalent bonds with the RFG are the same in the AA and BA, esp. are amine gps. and the RFG are COOH so that covalent peptide bonds are formed.

USE/ADVANTAGE - As reagents in binding assays esp. immunoassays, a controllable no. of ligands can be chemically coupled to a PM.

L120 ANSWER 26 OF 26 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN

ACCESSION NUMBER: 1983-847356 [51] WPIX

DOC. NO. NON-CPI: N1983-226436

DOC. NO. CPI: C1983-124084

TITLE: Vitamin-D3 deriv,-containing antigen - for preparation of antibody

for immunochemical assay.

DERWENT CLASS: B01 B05

PATENT ASSIGNEE(S): (TEIJ) TEIJIN LTD

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN	IPC
JP 58193463	A	19831111	(198351)*		10		
JP 02042194	B	19900920	(199042)				

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 02042194	B	JP 1982-75317	19820507

PRIORITY APPLN. INFO: JP 1982-75317 19820507; JP

1989-121387 19820507

INT. PATENT CLASSIF.: C01N033-54; C07G007-00; C07K015-12; G01N033-53

BASIC ABSTRACT:

JP 58193463 A UPAB: 19930925

Antigen is prepared by **conjugation** of Vitamin D3 derivative of formula (I) and immunogenic carrier via the carboxyl or amino group of the Vitamin D3 derivative R1 is H or 1-6C alkyl having carboxyl or amino gp.; R2, R3 and R4 are each H or OH.

Antibody for immunochemical assay is induced by inoculating the antigen of host-animal, pref. rabbit. Antibody is useful in enzyme-immunoassay or radio-immunoassay, is pref. applicable to quantitative determ. of active Vitamin D3 cpds. having alpha-, 24- or 25-OH group.

0/0

FILE SEGMENT: CPI

FIELD AVAILABILITY: AB

MANUAL CODES: CPI: B03-G; B04-B04C; B11-C07A; B12-K04

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=> => d que 169

L28 1 SEA FILE=REGISTRY ABB=ON PLU=ON 19356-17-3/RN
 L29 2974 SEA FILE=HCAPLUS ABB=ON PLU=ON L28
 L30 2974 SEA FILE=HCAPLUS ABB=ON PLU=ON L29 OR 19356-17-3P OR
 19356-17-3D?
 L31 1 SEA FILE=REGISTRY ABB=ON PLU=ON 66612-29-1/RN
 L32 112 SEA FILE=HCAPLUS ABB=ON PLU=ON L31
 L33 112 SEA FILE=HCAPLUS ABB=ON PLU=ON L32 OR 66612-29-1P OR
 66612-29-1D?
 L34 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L30 AND L33
 L43 31272 SEA FILE=HCAPLUS ABB=ON PLU=ON ?SECOCHOLEST? OR (25(1W)HCC)
 OR 25HCC OR ?CHOLECALCIF? OR VITAMIN D OR (VITAMIN(1W)D) OR
 VITAMIN D3 OR (VITAMIN(1W)D3)
 L44 204 SEA FILE=HCAPLUS ABB=ON PLU=ON ?CALCIDIOL? OR ?CALCIFEDIOL?
 OR ?CALDEROL? OR ?DEDROGYL? OR ?DIDROGYL? OR ?HIDROFEROL?
 L45 2 SEA FILE=HCAPLUS ABB=ON PLU=ON (RO 8-8892) OR (RO(1W)8(1W)889
 2) OR (U 32070E) OR (U(1W)32070E)
 L46 1857 SEA FILE=HCAPLUS ABB=ON PLU=ON (VITAMIN(1W)D?)/CW
 L47 259115 SEA FILE=HCAPLUS ABB=ON PLU=ON VITAMINS+PFT,NT/CT
 L48 5811 SEA FILE=HCAPLUS ABB=ON PLU=ON ?PHTHALAZIN? OR ?ISOLUMINOL?
 OR ABEI
 L49 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L30 AND L48
 L50 4 SEA FILE=HCAPLUS ABB=ON PLU=ON (L43 OR L44 OR L45 OR L46 OR
 L47) AND L33
 L52 10 SEA FILE=HCAPLUS ABB=ON PLU=ON (L43 OR L44 OR L45 OR L46)
 AND L48
 L54 43627 SEA FILE=HCAPLUS ABB=ON PLU=ON "IMMUNOCHEMICAL ANALYSIS (L)
 IMMUNOASSAY"+PFT,NT/CT
 L55 51101 SEA FILE=HCAPLUS ABB=ON PLU=ON "IMMUNOCHEMICAL ANALYSIS"+PFT,
 NT/CT
 L56 52656 SEA FILE=HCAPLUS ABB=ON PLU=ON IMMUNOASSAY+PFT,NT/CT
 L57 43 SEA FILE=HCAPLUS ABB=ON PLU=ON (L54 OR L55 OR L56) (L) ((L43
 OR L44 OR L45))
 L58 14 SEA FILE=HCAPLUS ABB=ON PLU=ON L57 AND (L30 OR L46)
 L59 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L57 AND (L33 OR L48)
 L60 14 SEA FILE=HCAPLUS ABB=ON PLU=ON L34 OR L49 OR L50 OR L52 OR
 L59
 L61 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L58 NOT L60
 L63 35804 SEA FILE=HCAPLUS ABB=ON PLU=ON ?SECOCHOLEST? OR (25(1W)HCC)
 OR 25HCC OR ?CHOLECALCIF? OR ?VITAMIN? D OR (?VITAMIN?(1W)D)
 OR ?VITAMIN? D3 OR (?VITAMIN(1W)D3?)
 L66 60 SEA FILE=HCAPLUS ABB=ON PLU=ON L63 (L) (L54 OR L55 OR L56)
 L67 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L66 AND L46
 L69 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L67 OR L61

=>

(FILE 'MEDLINE, BIOSIS, PASCAL, CABA, JICST-EPLUS' ENTERED AT 11:46:41 ON
22 NOV 2004)

=> d que 1100

L74 5909 SEA 19356-17-3
 L75 1 SEA (RO 8-8892) OR (RO(1W) 8(1W) 8892) OR (U 32070E) OR (U(1W)
 32070E)
 L76 2591 SEA ?CALCIDIOL? OR ?CALCIFEDIOL? OR ?CALDEROL? OR ?DEDROGYL?
 OR ?DIDROGYL? OR ?HIDROFEROL?

L77 103254 SEA ?SECOCHOLEST? OR (25(1W) HCC) OR 25HCC OR ?CHOLECALCIF? OR
 ?VITAMIN? D OR (?VITAMIN?(1W) D) OR ?VITAMIN? D3 OR (?VITAMIN(1
 W) D3?)
 L94 106074 SEA ?SECOCHOLEST? OR (25(1W) HCC) OR 25HCC OR ?CHOLECALCIF? OR
 ?VITAMIN? D OR (?VITAMIN?(1W) D) OR ?VITAMIN? D3 OR (?VITAMIN(1
 W) D3?) OR ((D OR D3) (3A) ?VITAMIN?)
 L97 182 SEA ((L74 OR L75 OR L76 OR L77) OR L94) (7A) ?CONJUGAT?
 L99 21 SEA L97 (7A) (?ASSAY? OR ?TRACE? OR ?TEST? OR ?ANALY? OR
 ?DETECT?)
 L100 16 DUP REM L99 (5 DUPLICATES REMOVED)

=> d his l109

(FILE 'EMBASE, ANABSTR, BIOTECHNO, BIOTECHDS' ENTERED AT 12:04:01 ON 22
 NOV 2004)

L109 9 DUP REM L108 (2 DUPLICATES REMOVED)

=> d que l109

L101 3646 SEA 19356-17-3
 L102 2 SEA (RO 8-8892) OR (RO(1W) 8(1W) 8892) OR (U 32070E) OR (U(1W)
 32070E)
 L103 37775 SEA ?SECOCHOLEST? OR (25(1W) HCC) OR 25HCC OR ?CHOLECALCIF? OR
 (?VITAMIN? D) OR (?VITAMIN?(1W) D) OR ?VITAMIN? D3 OR (?VITAMIN
 (1W) D3?) OR ((D OR D3) (3A) ?VITAMIN?)
 L107 90 SEA (L101 OR L102 OR L103) (7A) ?CONJUGAT?
 L108 11 SEA L107 (7A) (?ASSAY? OR ?TRACE? OR ?TEST? OR ?ANALY? OR
 ?DETECT?)
 L109 9 DUP REM L108 (2 DUPLICATES REMOVED)

=> dup rem l69 l100 l109

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 PROCESSING COMPLETED FOR L69
 PROCESSING COMPLETED FOR L100
 PROCESSING COMPLETED FOR L109

L121 32 DUP REM L69 L100 L109 (8 DUPLICATES REMOVED)
 ANSWERS '1-15' FROM FILE HCAPLUS
 ANSWERS '16-23' FROM FILE MEDLINE
 ANSWERS '24-27' FROM FILE BIOSIS
 ANSWERS '28-30' FROM FILE CABA
 ANSWER '31' FROM FILE JICST-EPLUS

ANSWER '32' FROM FILE EMBASE

=> file stnguide

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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Nov 19, 2004 (20041119/UP).

=> d ibib abs ed hitind retable l121
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, MEDLINE, BIOSIS, CABA, JICST-EPLUS,
EMBASE' - CONTINUE? (Y)/N:y

L121 ANSWER 1 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:522207 HCAPLUS
DOCUMENT NUMBER: 141:151149
TITLE: Using chromatin immunoprecipitation to monitor
1 α ,25-dihydroxyvitamin D3-dependent chromatin
activity on the human CYP24 promoter
AUTHOR(S): Vaisanen, Sami; Dunlop, Thomas W.; Frank, Christian;
Carlberg, Carsten
CORPORATE SOURCE: Department of Biochemistry, University of Kuopio,
Kuopio, FIN-70211, Finland
SOURCE: Journal of Steroid Biochemistry and Molecular Biology
(2004), 89-90(1-5), 277-279
CODEN: JSBBEZ; ISSN: 0960-0760
PUBLISHER: : Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors applied the chromatin immunopptn. (ChIP) method for the anal.
of 1 α ,25-dihydroxyvitamin D3 (1,25 D3)-dependent chromatin activity
on the human 24-hydroxylase (CYP24) promoter in MCF-7 human breast cancer
cells. In this pilot study the authors concentrated on the proximal promoter
(+22 to -424) of the CYP24 gene, which includes the known 1,25 Da3
response element (VDRE) cluster. A constitutively active region of the
human histone 4a gene (-40 to +285) served for normalization. Chromatin
activity snapshots were taken 0, 30, 60, 120, 180, 240 and 300 min after
the onset of stimulation with 1,25 D3 and anti-acetylated histone 4
antibodies were used for ChIP. The authors' results suggest that ChIP is
suitable for monitoring 1,25 D3-dependent changes of chromatin
organization and can be used to reveal information about chromatin
activity in living cells.
ED Entered STN: 29 Jun 2004
CC 2-1 (Mammalian Hormones)
Section cross-reference(s): 3
IT **Immunoassay**
(immunopptn.; using chromatin immunopptn. to monitor 1 α ,25-
dihydroxyvitamin D3-dependent chromatin activity on
human CYP24 promoter as evaluated in MCF-7 human breast cancer cells)
IT Promoter (genetic element)
Vitamin D receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(using chromatin immunopptn. to monitor 1 α ,25-dihydroxyvitamin
D3-dependent chromatin activity on human CYP24 promoter as evaluated in
MCF-7 human breast cancer cells)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====	=====	=====	=====	=====	=====
Berger, S	2002	12	142	Curr Opin Genet Dev	HCAPLUS
Carlberg, C	1998	8	19	Crit Rev Eukaryot Ge	HCAPLUS
Carlberg, C	2003	88	274	J Cell Biochem	HCAPLUS
Chen, K	1995	1263	1	Biochim Biophys Acta	HCAPLUS
Henry, H	2001	66	391	Steroids	HCAPLUS
Kerry, D	1996	271	29715	J Biol Chem	HCAPLUS
Orlando, V	2000	25	99	Trends Biochem	HCAPLUS

=> d ibib abs ed hitind retable l121 2-15

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, MEDLINE, BIOSIS, CABA, JICST-EPLUS, EMBASE' - CONTINUE? (Y)/N:y

L121 ANSWER 2 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:221920 HCAPLUS

DOCUMENT NUMBER: 138:251112

TITLE: Competitive immunoassay for the determination of Vitamin D compounds in serum and plasma

INVENTOR(S): Armbruster, Franz Paul; Friedl, Sabine

PATENT ASSIGNEE(S): Immundiagnostik Ag, Germany

SOURCE: PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
WO 2003023391	A2	20030320	WO 2002-EP9740	20020830
WO 2003023391	A3	20031218		
W: US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR				
DE 10144905	A1	20030410	DE 2001-10144905	20010912
DE 10144905	C2	20030731		

PRIORITY APPLN. INFO.: DE 2001-10144905 A 20010912

AB The invention relates to a method and a sample buffer for a direct measuring assay in order to determine vitamin D compds. such as 25-hydroxyl-vitamin-D2, 25-hydroxy-vitamin-D3. 1 α ,25-dihydroxy-vitamin-D2, 1 α ,25-dihydroxy-vitamin-D3.in plasma or serum. The assay is based on a protein binding anal. on antibodies in place of the vitamin-D binding protein- in relation to the vitamin D compound to be determined, and the sample and anal. buffer contains at least 0.05 weight % soluble

hydroxylated aromatic carboxylic acid or a salt thereof for a slightly acid pH, preferably 1-7 weight % sodium or potassium salicylate for a pH ranging between 3.0 und 7.0, and optionally cyclodextrin.

ED Entered STN: 21 Mar 2003

IC ICM G01N033-00

CC 9-10 (Biochemical Methods)

IT Blood analysis

Blood plasma

Blood serum

Immunoassay

pH

(competitive immunoassay for determination of **Vitamin D** compds. in serum and plasma)IT **Immunoassay**(enzyme-linked immunosorbent assay; competitive immunoassay for determination of **Vitamin D** compds. in serum and plasma)IT **Immunoassay**(fluorescence; competitive immunoassay for determination of **Vitamin D** compds. in serum and plasma)IT **Immunoassay**(luminescence, LIA; competitive immunoassay for determination of **Vitamin D** compds. in serum and plasma)IT **Immunoassay**(radioimmunoassay; competitive immunoassay for determination of **Vitamin D** compds. in serum and plasma)IT 1406-16-2, Vitamin D **19356-17-3**, 25-Hydroxy vitamin D321343-40-8, 25-Hydroxy vitamin D2 32222-06-3, 1 α ,25-Dihydroxy vitamin D3 60133-18-8, 1 α ,25-Dihydroxy vitamin D2

RL: ANT (Analyte); ANST (Analytical study)

(competitive immunoassay for determination of Vitamin D compds. in serum and plasma)

L121 ANSWER 3 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:228917 HCAPLUS

DOCUMENT NUMBER: 134:261893

TITLE: Vitamin D response element binding proteins of New World monkeys and cDNAs encoding them and their use in development of modulators of vitamin D-dependent gene expression

INVENTOR(S): Adams, John S.

PATENT ASSIGNEE(S): Cedars-Sinai Medical Center, USA

SOURCE: PCT Int. Appl., 81 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001021649	A2	20010329	WO 2000-US25844	20000920
WO 2001021649	A3	20010517		

W: AU, JP

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRIORITY APPLN. INFO.:

US 1999-400967

A 19990922

AB The invention relates to the isolation of novel vitamin D response element binding proteins (VDRE-BPs), that are distinct from vitamin D receptors, of New World monkeys and cDNAs encoding them for use in the study of vitamin D resistance and in the development of effectors that can be used to modulate vitamin D-dependent gene expression. Another aspect of the invention is to provide antibodies capables of binding to the vitamin D response element binding proteins of the invention and assays for the detection or screening of therapeutic compds. that interfere with the interaction between estrogen response element binding protein and estrogen response elements. The proteins were identified in nuclear exts. from a cell line derived from the cotton-top tamarin by studying vitamin D receptor binding to vitamin D responsive elements. They specifically bind

a vitamin D-response element half-site and act independently from another protein involved in vitamin D-regulated gene expression: YY1. Two proteins were affinity purified from B95-8 cells and were found to be similar to the hnRNPA family of proteins. A comparable protein was not found in Vero cells.

ED Entered STN: 30 Mar 2001

IC ICM C07K014-00

CC 3-4 (Biochemical Genetics)

Section cross-reference(s): 6

IT **Vitamin D receptors**

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(complex with retinoid X receptor and interaction with VDRE-BPs in gene expression; VDRE-BPs of New World monkeys and cDNAs encoding them and their use in development of modulators of vitamin D-dependent gene expression)

IT **Immunoassay**

(for VDRE-BPs; VDRE-BPs of New World monkeys and cDNAs encoding them and their use in development of modulators of **vitamin D**-dependent gene expression)

L121 ANSWER 4 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:182544 HCAPLUS

DOCUMENT NUMBER: 134:348346

TITLE: A new enzyme-linked immunosorbent assay for the measurement of human vitamin D receptor

AUTHOR(S): Swami, S.; Sarabia, S. F.; Diamandis, A.; Mistry, J.; Khosravi, J.; Feldman, D.

CORPORATE SOURCE: Department of Medicine, Stanford University School of Medicine, Stanford, CA, USA

SOURCE: Bone (New York) (2001), 28(3), 319-326

CODEN: BONEDL; ISSN: 8756-3282

PUBLISHER: Elsevier Science Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The hormonal actions of $1\alpha,25$ -dihydroxyvitamin D₃ [$1,25(\text{OH})_2\text{D}_3$] are mediated by its cognate receptor protein, the vitamin D receptor (VDR). Despite the growing importance of the VDR system as a modulator of cell growth and differentiation, convenient assays for quant. measurement of VDR are not readily available, and [^3H] $1,25(\text{OH})_2\text{D}_3$ ligand binding assays remain the standard method. In this paper, we present data to validate and characterize the usefulness of a new VDR enzyme-linked immunosorbent assay (ELISA) kit developed for the measurement of VDR in biol. samples. In this assay, samples are added to microtitration wells coated with anti-VDR antibody and incubated with a second anti-VDR antibody that is biotinylated. The antibody receptor complex is then detected with streptavidin-labeled horseradish peroxidase followed by incubation with a chromogenic substrate, tetramethylbenzidine. The assay was found to be sensitive and accurate for measurements of VDR and compared favorably with the conventional radioligand binding assay (RBA). The interassay variation ranged from 5% to 25% and the intraassay variation was less than 5%. The ELISA presents several advantages over existing methodol., including the use of nonradioactive detection systems, lower protein and sample volume requirements, as well as convenience and speed. The assay can be completed in as short a time as 3 h, avoiding overnight incubations. Data are also presented to demonstrate the ability of the ELISA to detect both occupied and unoccupied VDR, making it a valuable research tool in settings where $1,25(\text{OH})_2\text{D}_3$ is present. However, the ELISA, as currently formulated, is only useful for the detection of human VDR.

ED Entered STN: 16 Mar 2001

CC 2-1 (Mammalian Hormones)

IT **Vitamin D** receptors

RL: ANT (Analyte); ANST (Analytical study)

(enzyme-linked immunosorbent assay for measurement of human vitamin D receptor and evaluation thereof)

IT **Immunoassay**(enzyme-linked immunosorbent assay; enzyme-linked immunosorbent assay for measurement of human **vitamin D** receptor and evaluation thereof)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Bikle, D	1997		379	Vitamin D	HCAPLUS
Bradford, M	1976	72	248	Anal Biochem	HCAPLUS
Burnette, W	1981	112	195	Anal Biochem	HCAPLUS
Colston, K	1992	44	693	Biochem Pharm	HCAPLUS
Diamandis, A	1998			The Endocrine Societ	
Dokoh, S	1984	221	129	Biochem J	HCAPLUS
Feldman, D	1996		205	Osteoporosis	HCAPLUS
Gershoni, J	1983	131	1	Anal Biochem	HCAPLUS
Greene, G	1982	16	353	J Steroid Biochem	HCAPLUS
Haussler, M	1998	13	325	J Bone Miner Res	HCAPLUS
Haussler, M	1997		149	Vitamin D	HCAPLUS
Krishnan, A	1992	6	198	Mol Endocrinol	HCAPLUS
Ly, L	1999	140	2071	Endocrinology	HCAPLUS
Malloy, P	1999	20	156	Endocr Rev	HCAPLUS
Malloy, P	1989	68	263	J Clin Endocrinol Me	HCAPLUS
Miller, G	1992	52	515	Cancer Res	HCAPLUS
Miller, G	1995	1	997	Clin Cancer Res	HCAPLUS
Molnar, L	1989	35	824	Clin Chem	HCAPLUS
Peehl, D	1994	54	805	Cancer Res	HCAPLUS
Sandgren, M	1989	183	57	Anal Biochem	HCAPLUS
Shepard, R	1979	182	55	Biochem J	HCAPLUS
Skowronski, R	1995	136	20	Endocrinology	HCAPLUS
Towbin, H	1979	76	4350	Proc Natl Acad Sci	HCAPLUS
Uhland-Smith, A	1996	11	1921	J Bone Miner Res	HCAPLUS
Walters, M	1997		463	Vitamin D	HCAPLUS
Weckslar, W	1979	92	314	Anal Biochem	HCAPLUS

L121 ANSWER 5 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:605036 HCAPLUS

DOCUMENT NUMBER: 134:13646

TITLE: Characterization of vitamin D receptor immunoreactivity in human bone cells

AUTHOR(S): Langub, M. C.; Reinhardt, T. A.; Horst, R. L.; Malluche, H. H.; Koszewski, N. J.

CORPORATE SOURCE: Division of Nephrology, Bone & Mineral Metabolism, University of Kentucky Medical Center, Lexington, KY, USA

SOURCE: Bone (New York) (2000), 27(3), 383-387
CODEN: BONEDL; ISSN: 8756-3282

PUBLISHER: Elsevier Science Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The present study examined the expression of the vitamin D receptor (VDR) in adult human bone by immunohistochem. anal. Antiserum from goats immunized with an N-terminal rat VDR peptide was purified by affinity chromatog. The purified antiserum recognized both endogenous rat and recombinant human VDR in Western blots. The purified antiserum was also able to

specifically supershift the recombinant human VDR when analyzed in mobility shift assays. Immunohistochem. anal. of MG-63 cells, a human osteoblastic cell line known to express the VDR, revealed prominent staining over the nuclei of these cells. Immunostaining was greatly attenuated in the presence of an excess of the immunizing peptide. Anal. of bone biopsy samples from 16 normal human subjects immunostained for VDR protein showed strong, immunopos. staining over bone cells, particularly osteoblasts, in keeping with prior studies. In addition, there was significant immunoreactivity observed in nuclei of osteoclasts, lining cells and scattered bone marrow stromal cells of the adult human bone. Results showed that 298 osteoblasts out of 808 (36.9%) examined were immunopos. It was also observed that 29 osteoclasts out of 125 (23%) contained VDR immunoreactivity. The ability to detect VDR in osteoclasts and stromal cell populations suggests that in addition to regulating osteoblast function, these other cell types are also direct targets of the hormone's action. These results demonstrate the utility of this purified antiserum in detecting the VDR in a variety of mol. techniques and should prove useful in examining receptor expression in various pathol. conditions.

ED Entered STN: 30 Aug 2000

CC 2-10 (Mammalian Hormones)

IT **Vitamin D receptors**

RL: ANT (Analyte); BOC (Biological occurrence); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence)

(characterization of vitamin D receptor immunoreactivity in human bone cells by immunohistochem. anal.)

IT **Immunoassay**

(immunohistochem.; characterization of **vitamin D** receptor immunoreactivity in human bone cells by immunohistochem. anal.)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Bellido, T	1993	133	553	Endocrinology	HCAPLUS
Berger, U	1988	67	607	J Clin Endocrinol Me	HCAPLUS
Boivin, G	1987	3	125	Bone Miner	HCAPLUS
Clemens, T	1988	122	1224	Endocrinology	HCAPLUS
Haussler, M	1998	13	325	J Bone Miner Res	HCAPLUS
Horwood, N	1998	139	4743	Endocrinology	HCAPLUS
Johnson, J	1996	11	56	J Bone Miner Res	HCAPLUS
Koszewski, N	1998	349	388	Arch Biochem Biophys	HCAPLUS
Koszewski, N	1999	14	509	J Bone Miner Res	HCAPLUS
Laemmli, U	1970	227	680	Nature	HCAPLUS
Mangelsdorf, D	1995	83	835	Cell	HCAPLUS
Mee, A	1996	18	295	Bone	HCAPLUS
Menaa, C	2000	15	228	J Bone Miner Res	HCAPLUS
Merke, J	1986	77	312	J Clin Invest	HCAPLUS
Reichrath, J	1996	192	281	Path Res Pract	HCAPLUS
Sandgren, M	1991	181	611	Biochem Biophys Res	HCAPLUS
Stumpf, W	1994	102	183	Histochemistry	HCAPLUS
Suda, T	1995	17	87	Bone	HCAPLUS
Takeda, S	1999	140	1005	Endocrinology	HCAPLUS
Tuohimaa, P	1992	43	649	J Steroid Biochem Mo	HCAPLUS

L121 ANSWER 6 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:295384 HCAPLUS

DOCUMENT NUMBER: 133:70848

TITLE: Determination of vitamin D3 metabolites using high-performance liquid chromatography or

immunoaffinity chromatography
 AUTHOR(S): Shimada, Kazutake; Mitamura, Kuniko; Higashi, Tatsuya
 CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa
 University, Kanazawa, 920-0934, Japan
 SOURCE: Journal of the Chinese Chemical Society (Taipei)
 (2000), 47(2), 285-289
 CODEN: JCCTAC; ISSN: 0009-4536
 PUBLISHER: Chinese Chemical Society
 DOCUMENT TYPE: Journal; General Review
 LANGUAGE: English

AB A review with 17 refs. of the authors' investigation of the anal. of
 vitamin D3 metabolites. The development of high-performance liquid
 chromatog. methods for the quant. determination of 25-hydroxyvitamin D3
 3-sulfate
 and 25-hydroxyvitamin D3, which are the major circulating metabolites of
 vitamin D3 in human serum/plasma, has been described. The developed
 methods were applied to the determination of the correlation between the
 concentration of

the sulfate and its genin in healthy subjects and patients with chronic
 renal failure. The development of immunoaffinity chromatog. immobilizing
 the highly specific anti-1,25-dihydroxyvitamin D3 antibody for the
 pretreatment of radioreceptor assay of 1,25-dihydroxyvitamin D3, which is
 the active metabolite of vitamin D3, is also described.

ED Entered STN: 09 May 2000

CC 9-0 (Biochemical Methods)

Section cross-reference(s): 1, 2

IT **Immunoassay**

(immunoabsorption chromatog.; determination of **vitamin D3**
 metabolites in human blood by HPLC or immunoaffinity chromatog.)

IT 67-97-0D, Vitamin D3, metabolites **19356-17-3**, 25-Hydroxyvitamin
 D3 32222-06-3, 1,25-Dihydroxyvitamin D3 99447-30-0, 25-Hydroxyvitamin
 D3 3-sulfate

RL: ANT (Analyte); ANST (Analytical study)

(determination of vitamin D3 metabolites in human blood by HPLC or
 immunoaffinity chromatog.)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====	=====	=====	=====	=====	=====
Axelsson, M	1988	31	35	J Steroid Biochem	HCAPLUS
Higashi, T	1998	365	151	Anal Chim Acta	HCAPLUS
Higashi, T	1999	36	43	Ann Clin Biochem	HCAPLUS
Higashi, T	1999	22	767	Biol Pharm Bull	HCAPLUS
ICCT	1999			presented in 1999 In	
Kobayashi, N	1997	244	374	Anal Biochem	HCAPLUS
Kobayashi, N	1993	41	1321	Chem Pharm Bull	HCAPLUS
Kobayashi, N	1994		1809	J Chem Soc, Perkin T	HCAPLUS
Kobayashi, N	1997	63	127	J Steroid Biochem Mo	HCAPLUS
Nakamura, T	1989	10	117	Bone	HCAPLUS
Shimada, K	1997	20	596	Biol Pharm Bull	HCAPLUS
Shimada, K	1995	9	229	Biomed Chromatogr	HCAPLUS
Shimada, K	1997	690	348	J Chromatogr B	HCAPLUS
Shimada, K	1997	689	409	J Chromatogr B	HCAPLUS
Shimada, K	1995	33	82	J Chromatogr Sci	HCAPLUS
Shimada, K	1991	10	103	Trends Anal Chem	HCAPLUS
Shimizu, M	1997	690	15	J Chromatogr B	HCAPLUS

L121 ANSWER 7 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:819344 HCAPLUS

DOCUMENT NUMBER: 132:50161

TITLE: Preparation of functional vitamin D derivatives and a method for determining 25-hydroxy-vitamin D and 1 α ,25-dihydroxy-vitamin D metabolites

INVENTOR(S): Armbruster, Franz Paul; Voelter, Wolfgang; Schwing, Jens; Birkmayer, Christian

PATENT ASSIGNEE(S): Immundiagnostik Gesellschaft fuer Produktion und Vertrieb von Labordiagnosti, Germany; Biomedica G.m.b.H.

SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2

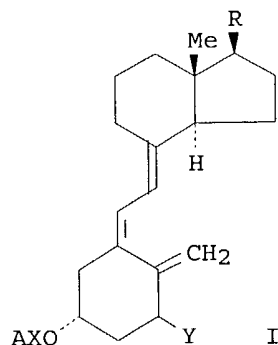
DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9967211	A1	19991229	WO 1999-EP4418	19990625
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19840435	A1	19991230	DE 1998-19840435	19980904
AU 9949011	A1	20000110	AU 1999-49011	19990625
AU 763458	B2	20030724		
EP 1097132	A1	20010509	EP 1999-932730	19990625
EP 1097132	B1	20031217		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002518474	T2	20020625	JP 2000-555865	19990625
AT 256658	E	20040115	AT 1999-932730	19990625
US 6787660	B1	20040907	US 2001-720338	20010220
PRIORITY APPLN. INFO.:			DE 1998-19828379	A 19980625
			DE 1998-19840435	A 19980904
			WO 1999-EP4418	W 19990625
OTHER SOURCE(S):			MARPAT 132:50161	
GI				



AB The invention relates to multifunctional vitamin D derivs. I [O = oxygen atom of an ether group; X = spacer group having a length of 0.8 to 4.2 nm, for example, an amino carboxylic acid radical, an amino undecanoic acid radical, or an amino polyether radical; Y = H, OH; A = tracer group such as biotin, digoxigenin or another vitamin D group which are bound by a protein having a higher affinity; R = hydrocarbon side-group of vitamin D or vitamin D metabolites]. The invention also relates to a method for quant. determining a 25-hydroxy-vitamin D metabolite and a 1 α ,25-dihydroxy-vitamin D metabolite in a sample.

ED Entered STN: 30 Dec 1999

IC ICM C07C401-00

CC 32-7 (Steroids)

IT **Immunoassay**
(enzyme-linked immunosorbent assay; preparation of functional vitamin D derivs. and a method for determining 25-hydroxy-vitamin D and 1 α ,25-dihydroxy- vitamin D metabolites)

IT **Immunoassay**
(enzyme; preparation of functional vitamin D derivs. and a method for determining 25-hydroxy-vitamin D and 1 α ,25-dihydroxy- vitamin D metabolites)

IT **Immunoassay**
(fluorescence; preparation of functional vitamin D derivs. and a method for determining 25-hydroxy-vitamin D and 1 α ,25-dihydroxy- vitamin D metabolites)

IT **Immunoassay**
(immunoenzymometric assay, IEMA/EUA; preparation of functional vitamin D derivs. and a method for determining 25-hydroxy-vitamin D and 1 α ,25-dihydroxy- vitamin D metabolites)

IT **Immunoassay**
(immunoradiometric assay; preparation of functional vitamin D derivs. and a method for determining 25-hydroxy-vitamin D and 1 α ,25-dihydroxy- vitamin D metabolites)

IT **Immunoassay**
(luminescence; preparation of functional vitamin D derivs. and a method for determining 25-hydroxy-vitamin D and 1 α ,25-dihydroxy- vitamin D metabolites)

IT **Vitamin D receptors**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(preparation of functional vitamin D derivs. and a method for determining 25-hydroxy-vitamin D and 1 α ,25-dihydroxy-vitamin D metabolites)

IT **Immunoassay**
(radioimmunoassay; preparation of functional vitamin D derivs. and a method for determining 25-hydroxy-vitamin D and 1 α ,25-dihydroxy- vitamin D metabolites)

IT 50-14-6, Vitamin D2 67-97-0, Vitamin D3 19356-17-3, 25-Hydroxyvitamin D3 21343-40-8, 25-Hydroxyvitamin D2
RL: ANT (Analyte); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)
(preparation of functional vitamin D derivs. and a method for determining 25-hydroxy-vitamin D and 1 α ,25-dihydroxy-vitamin D metabolites)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Higashi, T	1998	365	151	Analytica Chimica Ac	HCAPLUS

Kobayashi, N	1997	62	79	J Steroid Biochem Mo	HCAPLUS
Ray, R	1997			WO 9724127 A	HCAPLUS
Toyo Jozo KK	1989			EP 0312360 A	HCAPLUS

L121 ANSWER 8 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:662342 HCAPLUS

DOCUMENT NUMBER: 132:9471

TITLE: Bioluminescent PCR-RFLP enzyme-linked immunosorbent assay for analysis of vitamin D receptor gene polymorphism

AUTHOR(S): Arakawa, Hidetoshi; Kokado, Amane; Yoshizawa, Shuzo; Maeda, Masako; Tokita, Akifumi; Yamashiro, Yuichiro

CORPORATE SOURCE: School of Pharmaceutical Sciences, Showa University, Tokyo, 142-8555, Japan

SOURCE: Analytical Sciences (1999), 15(10), 943-949

CODEN: ANSCEN; ISSN: 0910-6340

PUBLISHER: Japan Society for Analytical Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB We developed a sensitive and rapid PCR-RFLP ELISA using acetate kinase (AK) and firefly luciferase as a detection system. AK used as a label enzyme could sensitively be detected by bioluminescent assay using the firefly luciferase reaction. The detection limit was 10-20 mol/assay and the luminescence was stable for 48 h. FITC-labeled sense primer and biotin labeled anti sense primer were used for PCR amplification of the vitamin D receptor gene. After PCR, the products were digested with TaqI or ApaI enzyme. The reaction products were diluted with assay buffer and transferred to a plate coated with anti FITC IgG. After incubation for 2 h at 37°C, the plate was washed and reacted with avidin/biotinylated AK, the AK activity was detected by bioluminescence assay using the firefly luciferin/luciferase system. DNA polymorphism types (AA, Aa, aa, TT, Tt, tt) of the vitamin D receptor gene (VDR) could be clearly determined by measuring the bioluminescent intensity or by using photon imaging with a CCD camera.

ED Entered STN: 18 Oct 1999

CC 3-2 (Biochemical Genetics)

Section cross-reference(s): 2, 13

IT **Vitamin D receptors**

RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)
(bioluminescent PCR-RFLP ELISA for anal. of vitamin D receptor gene polymorphism)

IT **Immunoassay**

(enzyme-linked immunosorbent assay; bioluminescent PCR-RFLP ELISA for anal. of **vitamin D** receptor gene polymorphism)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Arai, H	1997	12	915	J Bone Miner Res	HCAPLUS
Arakawa, H	1991	199	238	Anal Biochem	HCAPLUS
Arakawa, H	1992	25	1055	Anal Lett	HCAPLUS
Arakawa, H	1993	8	135	J Biolumin Chemilumn	HCAPLUS
Bronstein, I	1989	4	99	J Biolumin Chemilumi	HCAPLUS
Cooper, G	1996	11	1841	J Bone Miner Res	HCAPLUS
Eisman, J	1995	10	1289	J Bone Miner Res	MEDLINE
Greenfield, E	1997	350	1263	Lancet	MEDLINE
Hahn, M	1995	229	236	Anal Biochem	HCAPLUS
Maeda, M	1995	28	383	Anal Lett	HCAPLUS
Miska, W	1989	4	119	J Biolumin Chemilumn	HCAPLUS
Morrison, N	1994	367	284	Nature [London]	HCAPLUS

Morrison, N	1992	89	6665	Proc Natl Acad Sci U	HCAPLUS
Murakami, S	1996	29	969	Anal Lett	HCAPLUS
Peacock, M	1995	10	1294	J Bone Miner Res	MEDLINE
Tokita, A	1996	11	1003	J Bone Miner Res	MEDLINE
Tominaga, K	1996	42	1750	Clin Chem	HCAPLUS
Xiao, L	1996	199	139	J Immunol Method	HCAPLUS

L121 ANSWER 9 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:542463 HCAPLUS

DOCUMENT NUMBER: 127:187235

TITLE: Mammalian cell nucleus vitamin D response
element-binding protein VDRE-BP and antibodies to
VDRE-BP

INVENTOR(S): Adams, John S.

PATENT ASSIGNEE(S): Cedars-Sinai Medical Center, USA

SOURCE: PCT Int. Appl., 24 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9729124	A1	19970814	WO 1997-US2210	19970212
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2245960	AA	19970814	CA 1997-2245960	19970212
AU 9721226	A1	19970828	AU 1997-21226	19970212
AU 730816	B2	20010315		
EP 932622	A1	19990804	EP 1997-906569	19970212
R: AT, BE, CH, DE, DK, FR, GB, IT, LI, LU, NL, SE, MC, IE				
US 5994504	A	19991130	US 1997-799429	19970212
JP 2001508642	T2	20010703	JP 1997-528751	19970212
PRIORITY APPLN. INFO.:			US 1996-11612P	P 19960212
			WO 1997-US2210	W 19970212

AB The invention relates to the discovery and purification of novel vitamin D response element binding proteins. Vitamin D response element binding proteins are distinct from the vitamin D receptor. Vitamin D response element binding proteins can interfere with the biol. activity of the vitamin D receptor and other related intracellular receptor proteins. One aspect of the invention is to provide purified vitamin D response element binding proteins. Another aspect of the invention is to provide antibodies capable of binding to the vitamin D response element binding proteins of the invention. Another aspect of the invention is to provide assays for the detection or screening of therapeutic compds. that interfere with the interaction between vitamin D response element binding protein and vitamin D response elements.

ED Entered STN: 25 Aug 1997

IC ICM C07K014-435

ICS C07K016-18; G01N033-53

CC 6-3 (General Biochemistry)

Section cross-reference(s): 1, 3, 13

IT **Vitamin D receptors**

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(VDRE-BP interference with; mammalian cell nucleus vitamin D response element-binding protein VDRE-BP and antibodies to VDRE-BP)

IT Callithrix jacchus

Cell nucleus

Immunoassay

Mammal (Mammalia)

Primate

(mammalian cell nucleus **vitamin D** response

element-binding protein VDRE-BP and antibodies to VDRE-BP)

L121 ANSWER 10 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:748509 HCAPLUS

DOCUMENT NUMBER: 128:32064

TITLE: Measurement of plasma 1,25-dihydroxyvitamin D using a novel immunoextraction technique and immunoassay with iodine labeled vitamin D tracer

AUTHOR(S): Fraser, W. D.; Durham, B. H.; Berry, J. L.; Mawer, E. B.

CORPORATE SOURCE: Department of Clinical Chemistry, Royal Liverpool University Hospital, Liverpool, L69 3GA, UK

SOURCE: Annals of Clinical Biochemistry (1997), 34(6), 632-637
CODEN: ACBOBU; ISSN: 0004-5632

PUBLISHER: Royal Society of Medicine Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB We evaluated a novel assay for the measurement of 1,25 dihydroxyvitamin D (1,25 (OH) 2D). Immunoextn. of 1,25 (OH)2D is performed using a mini column containing a solid-phase monoclonal antibody followed by RIA (RIA) using an 125I-labeled 1,25 (OH)2D derivative tracer and Sac-cell separation

The

mean recovery of 1,25 (OH)2D3 was 101%, linearity was excellent, inter- and intra-assay coeffs. of variation were 9, 8 and 13% and 11, 10 and 14% at low, medium and high concns. of 1,25 (OH)2D3, resp. The cross-reactivity of vitamin D metabolites was <0.0015% for 25-hydroxyvitamin D3, 24,25-dihydroxyvitamin D3 and dihydroxycholesterol and 0.54% for 1 α calcidol. 1,25-Dihydroxyvitamin D2 cross-reactivity was 79%. The detection limit of the assay was 5 pmol/L. Comparison with a com. radioreceptor assay (RRA) and an inhouse RIA gave regression equations of $y=0.94x+11.8$ ($r=0.98$) and $y=0.91x - 1.7$ ($r=0.95$), resp., with no major discrepancies between the methods in all patient groups studied. Plasma concns. of 1,25 (OH)2D obtained with the assay were as follows: normal, unsupplemented subjects: mean 88, range 48-155 pmol/L, n=68, patients with chronic renal failure: mean 11, range 3-36 pmol/L, n=27, primary hyperparathyroidism: mean 198, range 130-299 pmol/L, n=23, Paget's disease: mean 92, range 42-149 pmol/L, n=24, osteomalacia: mean 43, range 27-61 pmol/L, n=9. A min. sample volume of 300 μ L is required, the hands-on time is significantly less than other com. assays and the measuring procedure is gamma counting rather than scintillation counting. The assay offers several advantages over previous methods and should allow more labs. to offer measurement of 1,25 (OH) 2D as part of their repertoire.

ED Entered STN: 28 Nov 1997

CC 9-10 (Biochemical Methods)

IT **Immunoassay**

(radioimmunoassay; measurement of plasma 1,25-dihydroxyvitamin D using a novel immunoextn. technique and immunoassay with iodine labeled **vitamin D** tracer)

IT 67-96-9, Dihydroxycholesterol 19356-17-3, 25-Hydroxyvitamin D3
40013-87-4, 24,25-Dihydroxyvitamin D3 41294-56-8, α -Calcidol
60133-18-8, 1,25-Dihydroxyvitamin D2

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(cross-reactivity of; measurement of plasma 1,25-dihydroxyvitamin D using a novel immunoextn. technique and immunoassay with iodine labeled vitamin D tracer)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Berry, J	1994		765	Vitamin D: A Pluripo	HCAPLUS
Bjorkhem, J	1979	25	584	Clin Chem	
Bouillon, R	1980	26	562	Clin Chem	HCAPLUS
Broadus, A	1980	12	225	Clin Endocrinol	MEDLINE
Eisman, J	1976		235	Arch Biochem Biophys	HCAPLUS
Fraher, L	1983	18	151	Clin Endocrinol	
Garabedian, M	1972	69	1673	Proc Natl Acad Sci U	HCAPLUS
Haussler, M	1976	5	151s	Clin Endocrinol	
Holick, M	1996		74	Primer on the Metabo	
Hollis, B	1986	32	2060	Clin Chem	HCAPLUS
Hollis, B	1995	41	1313	Clin Chem	HCAPLUS
Hollis, B	1996	42	586	Clin Chem	HCAPLUS
Hughes, M	1976	58	61	J Clin Invest	HCAPLUS
Lund, B	1980	25	30	Nephron	MEDLINE
Manolagas, S	1983	56	751	J Clin Endocrinol Me	MEDLINE
Mawer, E	1990	190	199	Clin Chim Acta	HCAPLUS
Mawer, E	1973	i	626	Lancet	
Reichel, H	1989	115	980	N Engl J Med	
Rheinhardt, T	1984	58	91	J Clin Endocrinol Me	
Stern, P	1978	46	891	J Clin Endocrinol Me	HCAPLUS
Walters, M	1992	13	719	Endocr Rev	HCAPLUS

L121 ANSWER 11 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:30465 HCAPLUS

DOCUMENT NUMBER: 126:99825

TITLE: An enzyme-linked immunoassay for the
1,25-dihydroxyvitamin D3 receptor protein

AUTHOR(S): Uhland-Smith, Ann; Prahl, Jean M.; Deluca, Hector F.

CORPORATE SOURCE: Department Biochemistry, University Wisconsin,
Madison, WI, USA

SOURCE: Journal of Bone and Mineral Research (1996), 11(12),
1921-1925

CODEN: JBMREJ; ISSN: 0884-0431

PUBLISHER: Blackwell

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In this paper, we detail an enzyme-linked immunoassay for the
1,25-dihydroxyvitamin D3 receptor protein. The receptor protein of cell
and tissue homogenates is bound between two monoclonal antibodies specific
for different epitopes on the receptor protein. The first antibody is
bound to the well of an ELISA plate and the second is biotinylated. The
receptor-antibody complex is detected with avidin-alkaline phosphatase and
p-nitrophenyl phosphate. The amount of receptor in each sample is determined

by comparison with a standard curve made from purified receptor protein. This
assay is highly sensitive, measuring as little as 2 fmol of receptor, and
has an intra-assay coefficient of variation of 6.6% and an interassay
coefficient of

variation of 13.8%. The assay can be used to measure the receptor from
mammalian and avian species and is independent of the presence of hormone.
By eliminating the need for a radio-iodinated monoclonal antibody and
incorporating the ease of a plate assay, we have a significantly improved
method for measuring the vitamin D receptor protein. This paper also
presents Western anal. of the antibodies used to demonstrate that they do
not recognize other steroid hormone receptors.

ED Entered STN: 16 Jan 1997

CC 2-10 (Mammalian Hormones)
 IT **Vitamin D receptors**
 RL: ANT (Analyte); ANST (Analytical study)
 (enzyme-linked immunoassay for dihydroxyvitamin D3 receptor protein)
 IT **Immunoassay**
 (enzyme; enzyme-linked immunoassay for **dihydroxyvitamin D3** receptor protein)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Brown, T	1991	286	466	Arch Biochem Biophys	HCAPLUS
Brown, T	1988	85	2454	Proc Natl Acad Sci U	HCAPLUS
Chang, C	1992	89	5946	Proc Natl Acad Sci U	HCAPLUS
Dame, M	1986	25	4523	Biochemistry	HCAPLUS
Dame, M	1985	82	7825	Proc Natl Acad Sci U	HCAPLUS
Dokoh, S	1984	221	129	Biochem J	HCAPLUS
Ebeling, P	1992	75	176	J Clin Endocrinol Me	HCAPLUS
Munder, M	1995	92	2795	Proc Natl Acad Sci U	HCAPLUS
Pierce, E	1987	262	17091	J Biol Chem	HCAPLUS
Ross, T	1992	89	10282	Proc Natl Acad Sci U	HCAPLUS
Sandgren, M	1989	183	57	Anal Biochem	HCAPLUS
Wecksler, W	1979	92	314	Anal Biochem	HCAPLUS

L121 ANSWER 12 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1993:404328 HCAPLUS

DOCUMENT NUMBER: 119:4328

TITLE: Determination of vitamin D status by radioimmunoassay with an iodine-125-labeled tracer

AUTHOR(S): Hollis, Bruce W.; Kamerud, John Q.; Selvaag, Sandra R.; Lorenz, Jeffrey D.; Napoli, Joseph L.

CORPORATE SOURCE: Dep. Pediatr. Biochem. Mol. Biol., Med. Univ. South Carolina, Charleston, SC, 29425, USA

SOURCE: Clinical Chemistry (Washington, DC, United States) (1993), 39(3), 529-33
 CODEN: CLCHAU; ISSN: 0009-9147

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The first RIA for a vitamin D metabolite utilizing a radioiodinated tracer is reported. Antibodies were generated in a goat immunized with the vitamin D analog 23,24,25,26,27-pentanor-C(22)-carboxylic acid of vitamin D, coupled directly with bovine serum albumin. The ¹²⁵I-labeled tracer was prepared by reacting a 3-amino-Pr derivative of vitamin D-C(22)-amide with Bolton-Hunter reagent. The primary antiserum, used at a 15,000-fold final dilution, cross-reacted equally with all cholecalciferol and ergocalciferol metabolites tested except 1,25-dihydroxycalciferol metabolites and the parent calciferols; the antiserum did not cross-react with dihydrotachysterol. Calibrators were prepared in vitamin D-stripped human serum. 25-Hydroxycholecalciferol was quant. extracted from serum or plasma (50 µL) with acetonitrile. The assay consists of a 90-min incubation at room temperature with primary antiserum, followed by a 20-min incubation

with

a second antiserum and separation of bound from free fractions by centrifugation. The detection limit of the assay was 2.8 µg/L for 25-hydroxycholecalciferol. Results with the present assay compared well with those from a liquid-chromatog. procedure involving specific UV detection of 25-hydroxycalciferol in plasma.

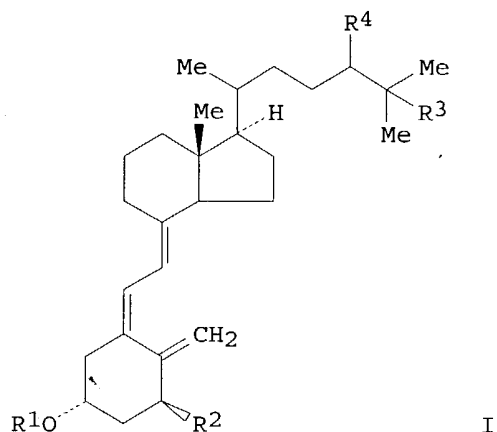
ED Entered STN: 10 Jul 1993

CC 9-10 (Biochemical Methods)

Section cross-reference(s): 18

IT **Immunoassay**
 (radioimmunoassay, **vitamin D** and derivs. determination by)
 IT 1406-16-2D, Vitamin D, derivs. **19356-17-3** 21343-40-8
 29261-12-9 40013-87-4 58050-55-8 70208-56-9 71302-34-6
 RL: ANT (Analyte); ANST (Analytical study)
 (determination of, RIA for)

L121 ANSWER 13 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1988:411809 HCAPLUS
 DOCUMENT NUMBER: 109:11809
 TITLE: Radioimmunoassay for rapid estimation of
vitamin D derivatives in
 calcinogenic plants
 AUTHOR(S): Weissenberg, Martin; Maoz, Arie; Levy, Arie;
 Wasserman, Robert H.
 CORPORATE SOURCE: Agric. Res. Organ., Volcani Cent., Bet Dagan, 50 250,
 Israel
 SOURCE: Planta Medica (1988), 54(1), 63-5
 CODEN: PLMEAA; ISSN: 0032-0943
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB A RIA is described for the rapid measurement of **vitamin D** derivs. (I, R1 = H, R2 = H or α -OH, R3, R4 = H or OH) in calcinogenic plants, using a com. available antibody. A high specificity of the antibody for the 25-hydroxy group was detected in a series of synthetic **vitamin D** derivs., and its steric requirements are discussed. The advantages and utility of this assay for large screening programs, plant selection and breeding, tissue culture studies and purification work, are evaluated.
 ED Entered STN: 09 Jul 1988
 CC 64-2 (Pharmaceutical Analysis)
 Section cross-reference(s): 11, 16
 ST **vitamin D** deriv detn plant; RIA **vitamin D** deriv detn
 IT Plant analysis
 (**vitamin D** derivs. determination in calcinogenic plants in,

by RIA)
 IT Cestrum diurnum
 Solanum glaucophyllum
 (vitamin D derivs. determination in, by RIA)
 IT **Immunochemical analysis**
 (radioimmunoassay, for vitamin D derivs.,
 in calcinogenic plants)
 IT 67-97-0, Vitamin D3 **19356-17-3** 32222-06-3,
 1 α ,25-Dihydroxycholecalciferol 41294-56-8 56142-94-0
 RL: ANT (Analyte); ANST (Analytical study)
 (determination of, in calcinogenic plants by RIA)

L121 ANSWER 14 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1986:164682 HCAPLUS

DOCUMENT NUMBER: 104:164682

TITLE: Measurement of **vitamin D**
 metabolites

AUTHOR(S): Hummer, L.; Christiansen, C.

CORPORATE SOURCE: Dep. Clin. Chem., Glostrup Hosp., Den.

SOURCE: Proceedings of the Workshop on Vitamin D (1985),
 6th(Vitam. D), 840-1
 CODEN: PWVDDU; ISSN: 0721-7110

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two multiple assay systems for the determination of vitamins D2 and D3 and
 their

metabolites in blood serum are presented. The 1st method requires 5 mL of
 serum and involves a 3-step CH₂Cl₂/MeOH extraction and purification by
 chromatog. on

Sephadex LH 20, resulting in 3 fractions containing **vitamin**
D, monohydroxylated **vitamin D**, and
 dihydroxylated **vitamin D**, resp. The individual
 compds. in each fraction are then determined by various means, including HPLC
 and RIA. The 2nd method is a quick assay requiring 0.5 mL of serum. It
 involves separation of the **vitamin D** metabolites into
 fractions containing 25-hydroxyvitamin D and 1,25-dihydroxyvitamin D
 components, resp., by extraction with acetonitrile and purification in
 prepacked

cartridges (Sep-pak C18 and Sep-pac Silica).

ED Entered STN: 17 May 1986

CC 9-10 (Biochemical Methods)

Section cross-reference(s): 13

ST **vitamin D** metabolite detn serum; extn **vitamin**
D metabolite serum; HPLC **vitamin D** metabolite
 serum; chromatog **vitamin D** metabolite serum;
 immunoassay **vitamin D** metabolite serum

IT Extraction
 (of **vitamin D** metabolites, from human blood serum
 for anal.)

IT Blood analysis
 (**vitamin D** and metabolites determination in, of human)

IT Chromatography, column and liquid
 (high-performance, of **vitamin D** metabolites, of
 human blood serum)

IT **Immunochemical analysis**
 (radioimmunoassay, of **vitamin D**
 metabolites, of human blood serum)

IT 50-14-6 50-14-6D, metabolites 67-97-0 67-97-0D, metabolites
19356-17-3 21343-40-8 29261-12-9 32222-06-3 40013-87-4
 55248-15-2 58050-55-8 70208-56-9 71302-34-6

RL: ANT (Analyte); ANST (Analytical study)
(determination of, in human blood serum)

L121 ANSWER 15 OF 32 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1982:541099 HCAPLUS

DOCUMENT NUMBER: 97:141099

TITLE: Clinical application of radioimmunoassay for
vitamin D metabolites

AUTHOR(S): O'Riordan, J. L. H.; Adami, S.; Sandler, L. M.;
Clemens, T. L.; Fraher, L. J.

CORPORATE SOURCE: Dep. Med., Middlesex Hosp., London, UK

SOURCE: Proceedings of the Workshop on Vitamin D (1982),
5th(Vitam. D: Chem., Biochem. Clin. Endocrinol.
Calcium Metab.), 751-6

CODEN: PWVDDU; ISSN: 0721-7110

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Metabolites of **vitamin D** were determined by RIA. After
addition and incubation of radiolabeled metabolite, serum was extracted with
MeCN, applied to a prewashed C18 Sep-Pak cartridge, lipid excess washed
with 70% MeOH-H₂O, and eluted with MeCN. The extract was dried,
chromatographed on Zorbax-SIL or silica with hexane-MeOH-iso-PrOH
(90:5:5), and the metabolites were collected for individual RIA. Total
separation of 25-hydroxyvitamins D₂ and D₃ was achieved by subjecting the
25-hydroxyvitamin D peak to reversed-phase HPLC on Zorbax ODS eluted with
88% MeOH in H₂O. The separated dihydroxy metabolites were measured by RIA,
and the 25-hydroxyvitamins D were measured by competitive protein-binding
assays. The limits of detection for 2.0 mL serum were 4.0 pg/mL for
1,25-dihydroxyvitamins D₂ or D₃, 20 pg/mL for other dihydroxy metabolites,
and 1.0 ng/mL of 25-hydroxyvitamins D₂ and D₃. Applications studied
include overprod. of 1,25-dihydroxyvitamin D₃ in sarcoidosis, formation
of 1,25-dihydroxyvitamin D₂ in man in treatment of **vitamin**
D deficiency, and effects of treatment of hypoparathyroid
patients.

ED Entered STN: 12 May 1984

CC 9-2 (Biochemical Methods)

Section cross-reference(s): 13, 14

ST serum **vitamin D** metabolite detn; radioimmunoassay
vitamin D metabolite

IT Blood analysis

(**vitamin D** metabolites determination in, of human by
radioimmunoassay)

IT Immunochemical analysis

(radioimmunoassay, for **vitamin D**
metabolites of human blood serum)

IT 50-14-6D, metabolites 67-97-0D, metabolites 19356-17-3

29261-12-9 32222-06-3 40013-87-4 50648-94-7 55248-15-2
78780-98-0

RL: ANT (Analyte); ANST (Analytical study)

(determination of, in human blood serum by radioimmunoassay)

=> d ibib abs ed hitind l121 16-

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, MEDLINE, BIOSIS, CABA, JICST-EPLUS,
EMBASE' - CONTINUE? (Y)/N:y

YOU HAVE REQUESTED DATA FROM 17 ANSWERS - CONTINUE? Y/(N):y

L121 ANSWER 16 OF 32

MEDLINE on STN

DUPLICATE 1

ACCESSION NUMBER: 1999426318 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10498030
TITLE: In vitro and in vivo glucuronidation of
24,25-dihydroxyvitamin D3.
AUTHOR: Higashi T; Horiike M; Kikuchi R; Shimada K
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa University,
Takara-machi, Japan.
SOURCE: Steroids, (1999 Oct) 64 (10) 715-25.
Journal code: 0404536. ISSN: 0039-128X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199912
ENTRY DATE: Entered STN: 20000113
Last Updated on STN: 20000113
Entered Medline: 19991209

AB Glucuronidation of 24,25-dihydroxyvitamin D3 has been investigated in in vitro and in vivo experiments. Three positional isomers of 24,25-dihydroxyvitamin D3 monoglucuronide were synthesized from 24,25-dihydroxyprovitamin D3 derivatives with Koenigs-Knorr reaction and used as standard samples. In the presence of the rat liver microsomal fraction and uridine-5'-diphosphoglucuronic acid, 24,25-dihydroxyvitamin D3 gave 3- and 24-glucuronides as the main products in almost equal amounts, but only a small amount of the corresponding 25-glucuronide was obtained. 24,25-Dihydroxyvitamin D3 monoglucuronide was **deconjugated** with rat **intestine** homogenate, which indicated the entero-hepatic circulation of 24,25-dihydroxyvitamin D3. After the administration of 24,25-dihydroxyvitamin D3 to rats, its 3- and 24-glucuronides were identified from the bile as inferred from the in vitro experiment. However, the in vivo glucuronidation occurred at the 24-position in preference to the 3-position, and the corresponding 25-glucuronide was not detected. These glucuronides were identified in comparison with standard samples based on their chromatographic behavior during high-performance liquid chromatography and data obtained from liquid chromatography-electrospray ionization-mass spectrometry, which was helpful in identifying these compounds.

ED Entered STN: 20000113
Last Updated on STN: 20000113
Entered Medline: 19991209

CT Check Tags: Female; In Vitro; Male; Support, Non-U.S. Gov't
24,25-Dihydroxyvitamin D 3: CH, chemistry
*24,25-Dihydroxyvitamin D 3: ME, metabolism
Animals
Chromatography, High Pressure Liquid
Glucuronides: CS, chemical synthesis
*Glucuronides: CH, chemistry
Microsomes, Liver: ME, metabolism
Molecular Structure
Rats
Rats, Wistar
Spectrum Analysis

RN 40013-87-4 (24,25-Dihydroxyvitamin D 3)
CN 0 (Glucuronides)

L121 ANSWER 17 OF 32 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 94235553 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8180121
TITLE: Specificity of the polyclonal antibodies raised against a
novel 25-hydroxyvitamin D3-bovine serum albumin conjugate

linked through the C-11 alpha position.
 AUTHOR: Kobayashi N; Hisada A; Shimada K
 CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa University,
 Japan.
 SOURCE: Journal of steroid biochemistry and molecular biology,
 (1994 Apr) 48 (5-6) 567-72.
 Journal code: 9015483. ISSN: 0960-0760.
 PUB. COUNTRY: ENGLAND: United Kingdom
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199406
 ENTRY DATE: Entered STN: 19940621
 Last Updated on STN: 19940621
 Entered Medline: 19940610

AB To obtain a specific antibody for use in 25-hydroxyvitamin D3
 [25(OH)D3] immunoassay, a novel hapten-carrier
 conjugate was prepared by coupling 11 alpha-hemiglutaryloxy-
 25(OH)D3 with bovine serum albumin (BSA). Three polyclonal antibodies
 (Ab11) showing high titer and affinity for 25(OH)D3 ($K_a = 0.96-2.6 \times 10^9$)
 M-1) were elicited in rabbits by repeated immunization with the conjugate.
 Specificity of the Ab11 was investigated by cross-reactivities with 11
 related compounds in a radioimmunoassay using a tritium-labeled antigen
 and compared with that of conventional antibodies (Ab3) raised against
 25(OH)D3 3-hemiglutarate conjugated with BSA. The Ab3 could not
 discriminate the A-ring modified metabolites [1,25(OH)2D3 (87-290%) and
 25(OH)D3 3-sulfate (S) (130-180%)], although the cross-reactivities with
 the side chain modified metabolites were satisfactorily low [24,25(OH)2D3
 (2.3-7.4%), 25(OH)D2 (< or = 1.1%)]. On the contrary, the Ab11 easily
 discriminated 1,25(OH)2D3 (0.10-2.4%) and 25(OH)D3 3S (< 0.3%), whereas
 significant cross-reactivities were found with 24,25(OH)2D3 (110-120%) and
 25,26(OH)2D3 (66-130%) having a dihydroxylated side chain. These results
 show that the Ab11 are complementary to the A-ring portion of the 25(OH)D3
 molecule which is opposite from the side chain structure recognized by the
 Ab3. Thus, the Ab11 will compensate for insufficient specificity of the
 Ab3 and are expected to be a useful tool for the pretreatment of
 biological samples in the development of various analyses of vitamin D
 metabolites including specific 25(OH)D3 immunoassays using the Ab3.

ED Entered STN: 19940621

Last Updated on STN: 19940621

Entered Medline: 19940610

CT Check Tags: Female; Support, Non-U.S. Gov't
 Animals

*Antibodies: IM, immunology

*Antibody Specificity

*Calcifediol: IM, immunology

Cross Reactions

Haptens: IM, immunology

Rabbits

*Serum Albumin, Bovine: IM, immunology

RN 19356-17-3 (Calcifediol)

CN 0 (Antibodies); 0 (Haptens); 0 (Serum Albumin, Bovine)

L121 ANSWER 18 OF 32

MEDLINE on STN

DUPLICATE 3

ACCESSION NUMBER: 93088326 MEDLINE

DOCUMENT NUMBER: PubMed ID: 1455456

TITLE: Production and specificity of antisera raised against
 25-hydroxyvitamin D3-[C-3]-bovine serum albumin conjugates.

AUTHOR: Kobayashi N; Ueda K; Kitahori J; Shimada K

CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa University,

SOURCE: Japan.
 Steroids, (1992 Oct) 57 (10) 488-93.
 Journal code: 0404536. ISSN: 0039-128X.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199301
 ENTRY DATE: Entered STN: 19930129
 Last Updated on STN: 19930129
 Entered Medline: 19930106
 AB In order to obtain specific antisera for use in the enzyme
 immunoassay of 25-hydroxyvitamin D3, three
 hapten-carrier conjugates having different lengths of bridges at
 the C-3 position were prepared from 25-hydroxyvitamin D3 by coupling with
 bovine serum albumin using the active ester method. The specificity of
 anti-25-hydroxyvitamin D3 antisera elicited in rabbits was tested by a
 cross-reaction study with closely related secosterols and by measuring the
 plasma levels of 25-hydroxyvitamin D3 by means of radioimmunoassay using
 tritium-labeled antigen. The results indicated that the specificity of
 the antisera obtained is higher than that of vitamin D-binding protein,
 and that some of these antisera are suitable for enzyme immunoassay.
 ED Entered STN: 19930129
 Last Updated on STN: 19930129
 Entered Medline: 19930106
 CT Check Tags: Support, Non-U.S. Gov't
 Animals
 Antibody Specificity: IM, immunology
 *Calcifediol: AN, analysis
 Calcifediol: CH, chemistry
 Calcifediol: IM, immunology
 Cross Reactions: IM, immunology
 Dose-Response Relationship, Immunologic
 *Haptens: CH, chemistry
 *Immune Sera: IM, immunology
 Immunoenzyme Techniques
 Rabbits
 Radioimmunoassay
 *Serum Albumin, Bovine: CH, chemistry
 Spectrophotometry, Ultraviolet
 RN 19356-17-3 (Calcifediol)
 CN 0 (Haptens); 0 (Immune Sera); 0 (Serum Albumin, Bovine)

L121 ANSWER 19 OF 32 MEDLINE on STN DUPLICATE 4
 ACCESSION NUMBER: 86160400 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 3006846
 TITLE: Assessment of vitamin D sulphate in human milk using
 desorption chemical ionization mass spectrometry.
 AUTHOR: Le Boulch N; Cancela L; Miravet L; Lange C
 SOURCE: Biomedical & environmental mass spectrometry, (1986 Feb) 13
 (2) 53-6.
 Journal code: 8603224. ISSN: 0887-6134.
 PUB. COUNTRY: ENGLAND: United Kingdom
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 198605
 ENTRY DATE: Entered STN: 19900321
 Last Updated on STN: 19900321
 Entered Medline: 19860519

AB Vitamin D3 sulphate (SD3) identification in human milk was obtained using Desorption Chemical Ionization (DCI). The chemical ionization reagent gas used was nitrogen, molecules were ionized when the emitter was heated. SD3 was obtained from lactarium human milk and purified by high-performance liquid chromatography (HPLC). A selected ion monitoring (SIM) measurement was carried out with typical ions, m/z 366 for SD3 and m/z 384 for parent vitamin D3, the intensity ratio (I366/I384) greater than 1 being related to the presence of the **sulphoconjugated** form of **vitamin D3** in the sample **analysed**.

The detection of small quantities of SD3 in human milk is possible using this technique.

ED Entered STN: 19900321
Last Updated on STN: 19900321
Entered Medline: 19860519

CT Check Tags: Female; Human
Chemistry
*Cholecalciferol: AN, analysis
Chromatography, Liquid
*Milk, Human: AN, analysis
Spectrum Analysis, Mass

RN 10529-43-8 (vitamin D3 sulfoconjugate); 67-97-0 (Cholecalciferol)

L121 ANSWER 20 OF 32 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 85237086 MEDLINE
DOCUMENT NUMBER: PubMed ID: 2989506
TITLE: Biologic activity of 3beta-D-glucopyranosides of vitamin D compounds.
AUTHOR: Londowski J M; Kost S B; Gross M; Labler L; Meier W; Kumar R
CONTRACT NUMBER: AM-25409 (NIADDK)
AM07147 (NIADDK)
SOURCE: Journal of pharmacology and experimental therapeutics, (1985 Jul) 234 (1) 25-9.
Journal code: 0376362. ISSN: 0022-3565.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198508
ENTRY DATE: Entered STN: 19900320
Last Updated on STN: 19970203
Entered Medline: 19850820

AB Polar glycosidic conjugates of vitamin D compounds occur in the vegetable and possibly in the animal kingdom. The biologic activity of these conjugates has not been examined systematically. To obtain more information on the biological role of such sterol conjugates, we examined the biological activity of the 3beta-D-glucopyranosyl conjugates of vitamin D3 5, 25-hydroxyvitamin D3 6, 1alpha-hydroxyvitamin D3 7 and 1alpha,25-dihydroxyvitamin D3 8. When these compounds were administered i.v. we found that a dose of between 50 and 500 pmol/rat of the four glucopyranosides tested increased active intestinal calcium transport and increased bone calcium mobilization in vitamin D-deficient rats fed a low calcium diet. Under the same conditions, corresponding doses of the parent vitamin D3 compounds elicited comparable increases in both intestinal calcium transport and bone calcium mobilization. When these compounds were administered p.o. 3beta-D-glucopyranosyl vitamin D3 5 exhibited no biological activity at doses of up to 5000 pmole/rat, whereas the corresponding glycosides of 25-hydroxyvitamin D3 6, 1alpha-hydroxyvitamin D3 7 and 1,25-dihydroxyvitamin D3 8 were active at doses of 500 to 1000 pmol/rat in the intestinal calcium transport system.

When the glucopyranosyl **conjugates** were administered i.v. to vitamin D-deficient rats, 25-**hydroxyvitamin** D3 and 1 α ,25-dihydroxyvitamin D3 were **detected** in the serum at levels less than or equal to those noted in animals dosed with the respective free sterols.

ED Entered STN: 19900320
Last Updated on STN: 19970203
Entered Medline: 19850820
CT Check Tags: Male; Support, U.S. Gov't, P.H.S.
Animals
Bone and Bones: ME, metabolism
Calcium: ME, metabolism
*Cholecalciferol: PD, pharmacology
Dose-Response Relationship, Drug
*Glycosides: PD, pharmacology
Intestines: ME, metabolism
Rats
RN 67-97-0 (Cholecalciferol); 7440-70-2 (Calcium)
CN 0 (Glycosides)

L121 ANSWER 21 OF 32 MEDLINE on STN DUPLICATE 6
ACCESSION NUMBER: 82169691 MEDLINE
DOCUMENT NUMBER: PubMed ID: 7069534
TITLE: Vitamin D metabolites in human milk.
AUTHOR: Weisman Y; Bawnik J C; Eisenberg Z; Spierer Z
SOURCE: Journal of pediatrics, (1982 May) 100 (5) 745-8.
Journal code: 0375410. ISSN: 0022-3476.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 198206
ENTRY DATE: Entered STN: 19900317
Last Updated on STN: 19900317
Entered Medline: 19820624

AB The concentrations of unconjugated 25-OHD, 24, 25(OH)2D, and 1,25(OH)2D were measured in human milk by competitive protein-binding radioassays following successive preparative Sephadex LH-20 chromatography and HPLC. The mean (+/- SE) concentration of 25-OHD was 0.37 +/- 0.03 ng/ml, of 24,25(OH)2D was 24.8 +/- 1.9 pg/ml, and of 1,25(OH)2D was 2.2 +/- 0.1 pg/ml. The concentration of 25-OHD3 in milk as determined by HPLC and UV detection at 254 nm was 0.27 +/- 0.08 ng/ml. The milk concentrations of vitamin D metabolites did not correlate with the maternal serum 25-OHD levels. The total amounts of **unconjugated vitamin** D metabolites correspond to the known low **bioassayable** vitamin D antirachitic activity in human milk.

ED Entered STN: 19900317
Last Updated on STN: 19900317
Entered Medline: 19820624
CT Check Tags: Human
Chromatography, High Pressure Liquid
*Dihydroxycholecalciferols: AN, analysis
Dihydroxycholecalciferols: ME, metabolism
*Hydroxycholecalciferols: AN, analysis
Hydroxycholecalciferols: ME, metabolism
*Milk, Human: AN, analysis
Radioligand Assay
Ultraviolet Rays
CN 0 (Dihydroxycholecalciferols); 0 (Hydroxycholecalciferols)

L121 ANSWER 22 OF 32 MEDLINE on STN DUPLICATE 7
ACCESSION NUMBER: 81016184 MEDLINE
DOCUMENT NUMBER: PubMed ID: 6251581
TITLE: Vitamin D3 sulfoconjugate in pregnant and lactating mother
rats after dosing with 3H vitamin D3.
AUTHOR: Le Boulch N; Gulat-Marnay C; Miravet L; Laromiquiere M;
Raoul Y
SOURCE: Steroids, (1980 Jul) 36 (1) 21-6.
Journal code: 0404536. ISSN: 0039-128X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198011
ENTRY DATE: Entered STN: 19900316
Last Updated on STN: 19900316
Entered Medline: 19801120
AB Twenty four hours after dosing of pregnant rats with 3H vitamin
D3 i.v. the **sulfoconjugate** was **detected** only
in the kidney. In contrast, 24 or 48 hours after 3H vitamin
D3 i.v. dosing the **vitamin D3**
sulfoconjugate was **detected** in the plasma, liver, kidney
and mammary glands of lactating mother rats.
ED Entered STN: 19900316
Last Updated on STN: 19900316
Entered Medline: 19801120
CT Check Tags: Female
Animals
Cholecalciferol: BL, blood
*Cholecalciferol: ME, metabolism
Kidney: ME, metabolism
*Lactation
Liver: ME, metabolism
Mammary Glands, Animal: ME, metabolism
Pregnancy
*Pregnancy, Animal
Rats
Time Factors
RN 10529-43-8 (vitamin D3 sulfoconjugate); 67-97-0 (Cholecalciferol)

L121 ANSWER 23 OF 32 MEDLINE on STN
ACCESSION NUMBER: 87004279 MEDLINE
DOCUMENT NUMBER: PubMed ID: 3489604
TITLE: Calcidiol in human milk. The effect of prohormone on
vitamin D status of breast fed unsupplemented infants.
AUTHOR: Le Boulch N; Cancela L; Miravet L
SOURCE: Endocrinologia experimentalis, (1986 Aug) 20 (2-3) 325-8.
Journal code: 0125712. ISSN: 0013-7200.
PUB. COUNTRY: Czechoslovakia
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198611
ENTRY DATE: Entered STN: 19900302
Last Updated on STN: 19900302
Entered Medline: 19861119
AB Vitamin D, free or **sulfoconjugated**, and calcidiol (25(OH)
vitamin D) levels were measured by competitive binding
assay in breast milk samples of nursing mothers. Vitamin D status
of their unsupplemented breast fed infants was determined. A strong

correlation was established during the first month of the infant life only between calcidiol mother milk content and breast-fed infant serum. Calcidiol seems to be the vitamin D derivative mainly responsible for the maintenance of the vitamin D status of the newborn infant.

ED Entered STN: 19900302
Last Updated on STN: 19900302
Entered Medline: 19861119
CT Check Tags: Female; Human
24,25-Dihydroxyvitamin D 3
25-Hydroxyvitamin D 2
*Breast Feeding
Calcitriol: BL, blood
Calcitriol: ME, metabolism
Dihydroxycholecalciferols: ME, metabolism
*Ergocalciferols: AA, analogs & derivatives
Ergocalciferols: ME, metabolism
*Infant, Newborn: PH, physiology
Lactation
*Milk, Human: ME, metabolism
Pregnancy
RN 21343-40-8 (25-Hydroxyvitamin D 2); 32222-06-3 (Calcitriol); 40013-87-4
(24,25-Dihydroxyvitamin D 3)
CN 0 (Dihydroxycholecalciferols); 0 (Ergocalciferols)

L121 ANSWER 24 OF 32 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on
STN DUPLICATE 8

ACCESSION NUMBER: 1979:123716 BIOSIS
DOCUMENT NUMBER: PREV197967003716; BA67:3716
TITLE: VITAMIN D AND ITS HYDROXYLATED METABOLITES IN THE RAT
PLACENTAL AND LACTEAL TRANSPORT SUBSEQUENT METABOLIC
PATHWAYS AND TISSUE DISTRIBUTION.
AUTHOR(S): NOFF D [Reprint author]; EDELSTEIN S
CORPORATE SOURCE: BIOCHEM DEP, WEIZMANN INST SCI, REHOVOT, ISR
SOURCE: Hormone Research (Basel), (1978) Vol. 9, No. 5, pp.
292-300.
CODEN: HRMRA3. ISSN: 0301-0163.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH

AB Replacing body stores of vitamin D in pregnant rats with radiolabeled cholecalciferol permitted the measurement of cholecalciferol and its hydroxylated metabolites in fetal tissue. Elevated levels of 24, 25-dihydroxycholecalciferol were found in fetuses, with highest accumulation in the skeleton. A similar finding was observed when tritiated 24,25-dihydroxycholecalciferol was administered continuously to pregnant rats. When tritiated 1,25-dihydroxycholecalciferol was administered, very little was transported into the fetuses, and out of the transported fraction a major portion was esterified. A selectivity pattern was established for the lacteal transport of cholecalciferol and its hydroxylated metabolites, in the order: cholecalciferol > 25-hydroxycholecalciferol > 24,25-dihydroxycholecalciferol > 1,25-dihydroxycholecalciferol. **Vitamin D sulfoconjugates** were not detected in suckling rat pups, and over 80% of the lacteal-transported 1,25-dihydroxycholecalciferol in suckling pups was esterified. Rat fetuses and newborn pups may not require 1,25-dihydroxycholecalciferol, and a protective mechanism against vitamin D intoxication may operate in fetuses and pups in the form of esterifying enzymes, and 24,25-dihydroxycholecalciferol might be associated with bone metabolism.
CC Radiation biology - Radiation and isotope techniques 06504

Biochemistry studies - Vitamins 10063
Biochemistry studies - Sterols and steroids 10067
Metabolism - Sterols and steroids 13008
Metabolism - Fat-soluble vitamins 13016
Reproductive system - Physiology and biochemistry 16504
Endocrine - General 17002
Bones, joints, fasciae, connective and adipose tissue - Physiology and biochemistry 18004
Toxicology - General and methods 22501
Development and Embryology - General and descriptive 25502
IT Major Concepts
Development; Endocrine System (Chemical Coordination and Homeostasis);
Metabolism; Reproductive System (Reproduction); Skeletal System
(Movement and Support)
IT Miscellaneous Descriptors
SKELETON VITAMIN D INTOXICATION
ORGN Classifier
Muridae 86375
Super Taxa
Rodentia; Mammalia; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals,
Rodents, Vertebrates
RN 1406-16-2 (VITAMIN D)

L121 ANSWER 25 OF 32 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on
STN

ACCESSION NUMBER: 1994:129171 BIOSIS

DOCUMENT NUMBER: PREV199497142171

TITLE: New fluorescence-labeling reagent targeting
conjugated dienes: Application to the fluorometric
analysis of vitamin D and A
metabolites.

AUTHOR(S): Shimizu, Masato; Yamada, Sachiko

CORPORATE SOURCE: Inst. Med. Dental Eng., Tokyo Med. Dental Univ. 2-3-10
Kanda Surugadai, Chiyoda-ku, Tokyo 101, Japan

SOURCE: Vitamins (Kyoto), (1994) Vol. 68, No. 1, pp. 15-30.
CODEN: BTMNA7. ISSN: 0006-386X.

DOCUMENT TYPE: Article

LANGUAGE: Japanese

ENTRY DATE: Entered STN: 24 Mar 1994

Last Updated on STN: 25 Mar 1994

AB A new sensitive and highly reactive fluorescence-labeling reagent
(DMEQ-TAD) targeting conjugated dienes was developed. The fluorescent
dienophile (DMEQ-TAD), in which fluorescent dimethoxyquinoxalinone (DMEQ)
group is substituted via ethylene spacer on a dienophile,
1,2,4-triazoline-3,5-dione (TAD), was synthesized in 8 steps in 24%
overall yield from dinitroveratrole. The reactions of DMEQ-TAD with six
major vitamin D metabolites and some synthetic analogs were examined under
various conditions. The reaction produced the corresponding
6,19-cycloadduct as a pair of the C (6) epimers (8 and 9) in quantitative
yield. The structures of the adducts (8 and 9) including the
stereochemistry at C (6) were unambiguously determined. The
fluorescence-labeled vitamins were analyzed by HPLC with fluorescence
detector. The new fluorometric method was used in the assay of plasma
25-OH-D-3, 24,25(OH)-2D-3, and 25,26(OH)-2D-3. The method was proved to
be precise and reliable by comparing with the HPLC-UV method. The
reaction of DMEQ-TAD with vitamin A metabolites and fluorometric assay of
plasma retinoic acid was also examined.

ED Entered STN: 24 Mar 1994

Last Updated on STN: 25 Mar 1994

CC Biochemistry methods - Vitamins 10053
 Biochemistry studies - General 10060
 Biochemistry studies - Vitamins 10063
 Biophysics - Methods and techniques 10504
 Metabolism - Fat-soluble vitamins 13016

IT Major Concepts
 Biochemistry and Molecular Biophysics; Metabolism; Methods and Techniques

IT Chemicals & Biochemicals
 VITAMIN D; RETINOIC ACID

IT Miscellaneous Descriptors
 DIMETHOXYQUINOXALINONE-(1,2,3-TRIAZOLINE-3,5-DIONE); FLUORESCENT DIENOPHILE; FLUOROMETRIC ASSAY; PHARMACOLOGICAL TOOL; RETINOIC ACID

RN 1406-16-2 (VITAMIN D)
 302-79-4 (RETINOIC ACID)

L121 ANSWER 26 OF 32 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN

ACCESSION NUMBER: 1984:337548 BIOSIS
 DOCUMENT NUMBER: PREV198478074028; BA78:74028
 TITLE: ENTERO HEPATIC CIRCULATION OF VITAMIN D A REAPPRAISAL OF THE HYPOTHESIS.
 AUTHOR(S): CLEMENTS M R [Reprint author]; CHALMERS T M; FRASER D R
 CORPORATE SOURCE: DUNN NATL LAB, MILTON ROAD, CAMBRIDGE, CB4 1XJ, UK
 SOURCE: Lancet, (1984) Vol. 1, No. 8391, pp. 1376-1379.
 DOCUMENT TYPE: Article
 FILE SEGMENT: BA
 LANGUAGE: ENGLISH

AB Vitamin-D metabolites in bile were investigated after oral and intravenous doses of radioactivity labeled vitamin D were given to 6 patients with T-tube biliary drainage after cholecystectomy. The vitamin was mainly excreted as highly polar inactivation products and less than 4% of the metabolites in bile were present as 25-hydroxyvitamin D or its glucuronide conjugate. There was insufficient vitamin D or 25-hydroxyvitamin D in bile for the reabsorption of these metabolites to make a significant contribution to normal vitamin-D status. Interference with an enterohepatic circulation of vitamin-D metabolites therefore cannot be a cause of vitamin-D deficiency. [Implications with respect to the relationship between gastrointestinal disease and vitamin D deficiency are presented.]

CC Radiation biology - Radiation and isotope techniques 06504
 Biochemistry - Physiological water studies 10011
 Biochemistry studies - Vitamins 10063
 Biochemistry studies - Sterols and steroids 10067
 Biophysics - Methods and techniques 10504
 Movement 12100
 Pathology - Therapy 12512
 Metabolism - Sterols and steroids 13008
 Metabolism - Fat-soluble vitamins 13016
 Nutrition - Malnutrition and obesity 13203
 Nutrition - Fat-soluble vitamins 13208
 Nutrition - Sterols and steroids 13226
 Digestive system - General and methods 14001
 Digestive system - Physiology and biochemistry 14004
 Digestive system - Pathology 14006
 Cardiovascular system - General and methods 14501
 Blood - Other body fluids 15010
 Dental biology - General and methods 19001
 Routes of immunization, infection and therapy 22100

IT Major Concepts
Digestive System (Ingestion and Assimilation); Gastroenterology (Human
Medicine, Medical Sciences); Metabolism; Nutrition

IT Miscellaneous Descriptors
HUMAN BILE GASTRO **INTESTINAL DISEASE VITAMIN**
D DEFICIENCY 25 HYDROXY VITAMIN D
GLUCURONIDE **CONJUGATE CHOLECYSTECTOMY/**

ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates

RN 1406-16-2 (VITAMIN D)
19356-17-3Q (25-HYDROXYVITAMIN D)
21343-40-8Q (25-HYDROXYVITAMIN D)
64719-49-9Q (25-HYDROXYVITAMIN D)

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ACCESSION NUMBER: 1978:115624 BIOSIS
DOCUMENT NUMBER: PREV197865002624; BA65:2624
TITLE: OSTEO MALACIA IN THE STAGNANT LOOP SYNDROME.
AUTHOR(S): SCHJONSBY H
SOURCE: Acta Medica Scandinavica Supplement, (1977) No. 603, pp.
39-42.
CODEN: AMSSAQ. ISSN: 0365-463X.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH

AB Osteomalacia in a 80 yr old woman with malabsorption due to the stagnant
loop syndrome is reported. The osteomalacia was associated with bacterial
overgrowth in the small intestine and increased bile salt deconjugation.
Although the mechanism of osteomalacia in the stagnant loop syndrome
remains uncertain, abnormal flora may reduce the absorption of vitamin D
by deconjugation of bile salts in the lumen of the small intestine.

CC Biochemistry studies - Vitamins 10063
Biochemistry studies - Sterols and steroids 10067
Biochemistry studies - Minerals 10069
Metabolism - Sterols and steroids 13008
Metabolism - Minerals 13010
Metabolism - Fat-soluble vitamins 13016
Nutrition - Fat-soluble vitamins 13208
Digestive system - Physiology and biochemistry 14004
Digestive system - Pathology 14006
Bones, joints, fasciae, connective and adipose tissue - Pathology 18006
Gerontology - 24500
Physiology and biochemistry of bacteria 31000
Medical and clinical microbiology - Bacteriology 36002

IT Major Concepts
Gastroenterology (Human Medicine, Medical Sciences); Infection;
Metabolism; Nutrition; Skeletal System (Movement and Support)

IT Miscellaneous Descriptors
HUMAN SMALL **INTESTINE BACTERIA OVERGROWTH VITAMIN**
D ABSORPTION BILE SALT DECONJUGATION

ORGN Classifier
Bacteria 05000
Super Taxa
Microorganisms
Taxa Notes

Bacteria, Eubacteria, Microorganisms
ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates
RN 1406-16-2 (VITAMIN D)

L121 ANSWER 28 OF 32 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 89:47375 CABA
DOCUMENT NUMBER: 19891412352
TITLE: Vitamin D metabolism in human pregnancy.
Concentrations of free and sulphated
25-hydroxyvitamin D3 in maternal and fetal plasma at
term
AUTHOR: Axelson, M.; Christensen, N. J.
CORPORATE SOURCE: Dep. Clinical Chemistry, Karolinska Hospital, Box
60500, 104 01 Stockholm, Sweden.
SOURCE: Journal of Steroid Biochemistry, (1988) Vol. 31, No.
1, pp. 35-39. 30 ref.
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101

AB The concentrations of free and sulphated 25-hydroxycholecalciferol
(25-HCC) in 20 paired maternal-cord plasma samples obtained at delivery
were estimated. The compounds were isolated by liquid-solid extraction at
high temperature, and the sulphate was purified by anion-exchange
chromatography before hydrolysis and **analysis** by
high-performance liquid chromatography. **Unconjugated 25**
-HCC was predominant in maternal plasma (mean 20 ng/ml) whereas
the sulphate was the major form of cholecalciferol in foetal circulation
(mean 21 ng/ml plasma). The total concentration of the 2 compounds in cord
plasma (mean 35 ng/ml) was significantly higher than in maternal plasma
(mean 30 ng/ml). There were positive correlations between maternal and
cord plasma content of free 25-HCC between maternal and cord plasma
content of sulphated 25-HCC and between plasma content of the maternal
free compound and the foetal sulphate. There was also a relation between
free and sulphated 25-HCC in cord plasma. The results suggest that
sulphation may be a physiologically important reaction for deactivating
and/or trapping secosteroids in the fetus.
ED Entered STN: 19941101
Last Updated on STN: 19941101

L121 ANSWER 29 OF 32 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 87:74159 CABA
DOCUMENT NUMBER: 19870423746
TITLE: Calcidiol in human milk. The effect of prohormone on
vitamin D status of breast fed unsupplemented
infants
AUTHOR: Boulch, N. le; Cancela, L.; Miravet, L.
CORPORATE SOURCE: Unite 18, INSERM, 6 Rue Guy Patin, 75010 Paris,
France.
SOURCE: Endocrinologia Experimentalis, (1986) Vol. 20, No.
2/3, pp. 325-328. 7 ref.
Price: Conference paper; Journal article
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101

Last Updated on STN: 19941101

AB Vitmain D, free or **sulphoconjugated**, and calcidiol (25-hydroxyvitamin D) were measured by competitive binding assay in milk samples collected from 2 nursing mothers. Vitamin D status of their unsupplemented breast-fed infants was determined from blood 25-hydroxyvitamin D, 1,25-dihydroxyvitamin D and 24,25-dihydroxyvitamin D. A strong correlation was established during the first month post partum between 25-hydroxyvitamin D contents of milk and infants' serum. This seems to be the vitamin D derivative mainly responsible for maintainance of vitamin D status in the newborn infant.

ED Entered STN: 19941101

Last Updated on STN: 19941101

L121 ANSWER 30 OF 32 CABA COPYRIGHT 2004 CABI on STN

ACCESSION NUMBER: 82:73867 CABA

DOCUMENT NUMBER: 19801414821

TITLE: Experimental vitamin D deficiency in the pig
La carence experimentale en vitamine "D" chez le porc

AUTHOR: Pointillart, A.

CORPORATE SOURCE: INRA Station de Recherches de Nutrition, 78350
Jouy-en-Josas, France.SOURCE: Journees de la Recherche Porcine en France, (1980)
pp. 335-344. 22 ref.
Publisher: Institut Technique du Porc. Paris
Meeting Info.: Journees de la Recherche Porcine en France.

PUB. COUNTRY: France

DOCUMENT TYPE: Conference Article

LANGUAGE: French

ENTRY DATE: Entered STN: 19941101

Last Updated on STN: 19941101

AB In trials with pigs, bone criteria such as density, thickness of cortex and X-ray photographs were better indicators of vitamin D deficiency than were the mineral content of bone or of plasma. Some, but not all, of the pigs deprived of vitamin D had low calcium, phosphate and calcitonin and high parathyrin in plasma, but plasma composition never indicated accurately the degree of deprivation. Deprivation for 3 months caused a large decrease of 25-hydroxycholecalciferol in plasma and a decrease of Ca-binding proteins in **intestine**. **Cholecalciferol sulphoconjugate** 100 IU daily caused 25-hydroxycholecalciferol content of serum to return to normal but it did not affect parathyrin, Ca, P or phosphatase in plasma or hydroxyproline in urine. Cholecalciferol had more effect on bone than had the sulphoconjugate. In pigs with both kidneys removed, hyperparathyroidism appeared after 2 days and hypocalcaemia after 3 days. Relative value of different factors as indicators of vitamin D deficiency is discussed. Hormonal regulation of plasma Ca in pigs is examined, with emphasis on the interaction between parathyrin and 1,25-dihydrocholecalciferol.

ED Entered STN: 19941101

Last Updated on STN: 19941101

L121 ANSWER 31 OF 32 JICST-EPlus COPYRIGHT 2004 JST on STN

ACCESSION NUMBER: 970776640 JICST-EPlus

TITLE: **Analysis of conjugated vitamin D metabolites by LC/MS.**

AUTHOR: MITAMURA KUNIKO; SHIMADA KAZUTAKE

CORPORATE SOURCE: Fac. of Pharm. Sci., Kanazawa Univ.

SOURCE: Seitai Seibun no Bunseki Kagaku Shinpojiumu Koen Yoshishu,

(1997) vol. 12th, pp. 108-109. Journal Code: Z0113B
 PUB. COUNTRY: Japan
 LANGUAGE: Japanese
 STATUS: New

L121 ANSWER 32 OF 32 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
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ACCESSION NUMBER: 79127608 EMBASE
 DOCUMENT NUMBER: 1979127608
 TITLE: Osteomalacia complicating a blind loop syndrome from
 congenital megaesophagus-megaduodenum.
 AUTHOR: Manicourt D.H.; Orloff S.
 CORPORATE SOURCE: Univ. Hosp. Brugmann, Brussels, Belgium
 SOURCE: Journal of Rheumatology, (1979) 6/1 (57-64).
 CODEN: JRHUA
 COUNTRY: Canada
 DOCUMENT TYPE: Journal
 FILE SEGMENT: 048 Gastroenterology
 031 Arthritis and Rheumatism
 006 Internal Medicine
 LANGUAGE: English

AB A young female with osteomalacia complicating a blind loop syndrome associated with congenital megaduodenum is described. In this case, the correction of vitamin D malabsorption by administration of antibiotics highlights the role of massive intraluminal bacterial overgrowth from destruction of vitamin D, or decreased unicellar solubilization due to **deconjugation** of biliary acids. The importance of cutaneous **vitamin D** synthesis in patients with osteomalacia of **gastrointestinal** origin is emphasized. The detection of megaduodenum and megaesophagus in the patient's father may be the first report of a familial association of these gastrointestinal abnormalities.

CT Medical Descriptors:
 *blind loop syndrome
 *osteomalacia
 megaduodenum
 megaesophagus
 case report
 esophagus
 small intestine
 bone

=>

=> => d his l125

(FILE 'ANABSTR, EMBASE, BIOTECHNO, BIOTECHDS' ENTERED AT 12:43:50 ON 22 NOV 2004)

L125 0 S L122 OR L124
 SAVE TEMP L125 VEN567MUL2G2/A

FILE 'STNGUIDE' ENTERED AT 12:47:10 ON 22 NOV 2004

=> d que l125

L101 3646 SEA 19356-17-3
 L102 2 SEA (RO 8-8892) OR (RO(1W) 8(1W) 8892) OR (U 32070E) OR (U(1W) 32070E)
 L103 37775 SEA ?SECOCHOLEST? OR (25(1W) HCC) OR 25HCC OR ?CHOLECALCIF? OR (?VITAMIN? D) OR (?VITAMIN?(1W) D) OR ?VITAMIN? D3 OR (?VITAMIN (1W) D3?) OR ((D OR D3)(3A) ?VITAMIN?)
 L104 3 SEA 66612-29-1

L105 1416 SEA ABEI OR ?PHTHALAZIN? OR ?ISOLUMINOL?
L106 3 SEA (L101 OR L102 OR L103) AND ((L104 OR L105))
L122 0 SEA (?CALCIDIOL? OR ?CALCIFEDIOL? OR ?CALDEROL? OR ?DEDROGYL?
OR ?DIDROGYL? OR ?HIDROFEROL?) (7A) (?CONJUGAT? OR ?ADDUCT?)
L123 1 SEA (?CALCIDIOL? OR ?CALCIFEDIOL? OR ?CALDEROL? OR ?DEDROGYL?
OR ?DIDROGYL? OR ?HIDROFEROL?) AND ((L104 OR L105))
L124 0 SEA L123 NOT L106
L125 0 SEA L122 OR L124

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